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THE IMPACT OF THE SECOND WORLD WAR
ON THE
BRITISH PIANO INDUSTRY

by
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Abstract/Lay Summary

The war effort of the United Kingdom and the subsequent restrictions and laws enforced by the Government during the Second World War time period had a significant impact on the British piano industry. The skilled work force, factories, and raw materials previously used to produce pianos became integral to the war effort, while production of non-necessities and luxury items, such as pianos, was limited and eventually ceased. In order to limit production and divert material and labour to the war effort, debilitating restrictions, company consolidation, and prohibitive taxation came into effect. This forced many piano manufacturers to seek out war production contracts, while those who were not able to secure these contracts had to relinquish their factories and employees, rely on revenue from repair work, or completely close down during the war years.

This thesis is the first extensive study of the impact of the Second World War on the British piano industry. Through an examination of the laws and regulations passed by the British Government during and immediately following the war years, a better understanding of the war's effect on the entire industry will be established and a timeline of the various restrictions placed on piano manufacturing will be presented. This timeline highlights (1) the Government's desire to stop piano manufacturing in order to divert labour and materials to the war effort, (2) the effect of Government restrictions on the piano industry, (3) the industry's struggle to convert to war work, and (4) the impact of the war in the post-war years.

Archival documents from both the piano industry and the Board of Trade elucidate the difficult situation faced by the industry and the effort of the Government both to stop piano production and to help the industry restart in the post-war era. The goal of the paper is to show the lasting effects of the war on the British piano industry and to argue that the British Government's treatment of the piano industry during the war era hastened its eventual demise.

Declaration

I declare that this thesis submitted for the degree of Doctor of Philosophy in Music is entirely my own work, written and researched for the purpose of this degree, and has not been submitted for any other degree or professional qualification.

Sarah Katherine Deters

24 February 2017

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Conventions

The study period of this thesis predates the introduction of decimal currency in Britain in 1971. Monetary figures quoted from primary sources and other historic documents use the old system of currency; pounds (£); shillings (s), and pence (d). In this system there were 20 shillings to the pound; 21 shillings to the guinea; 12 pence to a shilling or 240 pence to the pound.

Measurements are primarily given in the imperial system as this study predates the switch to metric in Britain in 1995. Measurements include feet (ft or ') and inches (in or ") for length, gallons for volume, and pounds (lbs) and ounces for weight.

During the study time of this thesis the United Kingdom controlled to varying degrees 30% of the world's land mass through its numerous crown colonies, protectorates, and the Indian Empire. In addition, the United Kingdom maintained political ties to four dominions: Australia, Canada, South Africa, and New Zealand, which were called the "Commonwealth" after 1926. This thesis uses the term "empire" when referring to the United Kingdom and all associated countries and territories. Commonwealth is used when referring to dominion countries. Although historical documents and primary source material used for this study sometimes use the terms "empirical states," and "empirical preference countries," this thesis uses the term Commonwealth because the countries referred to in the archival documents were dominion countries and therefore members of the Commonwealth.

Although modern conventions often use the term pianoforte to distinguish an early piano (meaning one without an iron plate) from a modern instrument; this thesis uses the term piano throughout.

For the purpose of this study, the term "piano industry" refers to the manufacturers of pianos and piano parts. The term does not include piano merchants, dealers, repairers, or tuners, although references to these facets of the music trades are occasionally included, particularly in the investigation of the effects of the Purchase Tax.

References to the National Archives in this thesis refer to the archives at Kew. Documents sourced from the National Archives, U.S.A. are designated as such.

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Introduction

The Second World War had a significant impact on the manufacture of pianos in Great Britain. Government regulations imposed for the war effort limited production, restricted materials integral to piano manufacture, banned piano sales to the domestic and then export market, forced companies to consolidate, and ultimately halted the production of pianos. In order for companies to remain solvent during the war years, firms sought contracts to produce war-related items, made pianos for the military, or relied on repair work and second hand piano sales. Many factories and some companies were completely closed. In the post-war era the continued limitations placed on the British piano industry by the Government stymied the reconstruction efforts, further damaging the already faltering industry. Without a doubt, the Second World War had a lasting effect on the British piano industry.

By the outbreak of the Second World War, the British piano industry was a mere shadow of its former self. After dominating the piano market during the nineteenth century, the British industry had been hemorrhaging business throughout the twentieth century, and by the time of this study period only 40 companies remained. This fall from grace was largely due to the companies slow acceptance of modern manufacturing techniques and new piano technologies, as well as their inability to compete with German and American imports. That said, the industry was not dead; in fact, in the 1930s sales were beginning to rise and the general mood was optimistic. Unfortunately, the upswing in business and rise in manufacturing was about to come to an end.

The Second World War would stop the fledgling renaissance of the British piano industry. Its effects would last much longer than the period of fighting and it would affect the industry for the rest of the twentieth century. However, little has been published about how the war changed the industry and this thesis is the first in-depth study of the impact of the Second World War on the British piano industry.

The musical instrument industry of Britain during the mid-twentieth century included more than manufacturers of pianos. Organs, woodwind and brass instruments, guitars, banjos, bowed strings, harps, percussion, harmonicas, and concertinas were all

produced in the United Kingdom.¹ During the period of this study, band instrument manufacturers (woodwind, brass, and percussion instruments) consisted predominantly of larger companies such as Boosey & Hawkes and the Premier Drum Company.² Like piano manufacturers, these instrument makers had a significant workforce and sizeable factories. Plucked string instruments, harmonicas, and concertinas were mass produced by companies such as John E. Dallas & Sons, and Rose, Morris and Company. Alternatively, bowed stringed instruments and harp manufacturers tended to be smaller in scale.

The decision to focus on the piano industry was mainly due to the availability of archival sources³ and because it was decided that examining the entire musical instrument industry would be too large of a task for this study. As pianos are made of a variety of materials, the piano could serve as an example of how government restrictions and policies affected piano making and this information could then be transferred to studies of other types of instrument manufacturing at the time.

Historically the British piano industry was located almost entirely in London. A small number of companies were established in other cities and towns throughout the history of British piano making, but during the period of this study only two manufacturers were located outside of London. Because of this, this dissertation focusses mainly on the London piano industry, but makes mention of companies established in other parts of the United Kingdom when appropriate.

The study of piano manufacturing during the Second World War complements a growing collection of organological scholarship which uses the interdisciplinary nature of musical instrument research in expanding our understanding of instruments and their place in society. Today, organology as a discipline uses musical instruments as specimens which can tell a researcher not only about how the instrument may have

¹ Musical instrument manufacturers, wholesalers, retailers, and importers were listed in the 1938 *The Music Trade Directory*. Unfortunately, this publication does not differentiate as to whether a company was a manufacturer or retailer, but it gives a good indication of the number of businesses involved in the music trades prior to the beginning of the Second World War. *The Music Trade Directory 1938* (London: Musical Opinion, 1938).

² Arnold Myers, "Brasswind Manufacturing at Boosey & Hawkes, 1930-1959," *Historic Brass Society Journal* 15, (2003): 55.

³ The National Archives hold documentation directly relating to the manufacture of pianos during the study period and two company archives were readily available.

sounded, but also about the people who played it, who made it, who designed it, and what its role was in society. The field has grown from its traditional in-depth technical study of the acoustic properties of musical instruments and focus on classification, to a broader, cultural study of musical instruments. Organological scholarship overlaps with that of musicology,⁴ the social sciences, history, and many other disciplines. This allows organology to explore a wide range of topics, but with musical instruments always at the core of the discussion.

This dissertation follows in the footsteps of organologists who study industrialised musical instrument manufacturing. This includes the work of Marie Kent who studies the lives of the workman of the piano industry in nineteenth-century London;⁵ of Jenny Nex who researches the socio-economic aspects of musical instrument making, as well as the social and cultural context of musical instruments;⁶ of Jocelyn Howell who studies the Boosey & Hawkes Company;⁷ and of Margaret Banks who researches the American band instrument industry and how its migration from the east coast to the Midwest changed the musical landscape of the United States.⁸ All of these authors explore wider, socio-economic issues and developments through the study of wide-scale instrument manufacturing. The authors often rely heavily on business records and archival documents rather than on the examination of musical instruments in order to expand our knowledge of instrument making and related issues.

As this dissertation looks at how the laws and restrictions passed by the Government of the United Kingdom affected musical instrument making, this study is just as much a study of economics and political science as it is about musical instrument

⁴ There is disagreement as to whether organology is a sub-discipline of musicology or its own discipline. The author was trained as a organologist and was taught that the field is its own discipline. As such, the author approaches this study as an example of organological research. That said, much of today's organology research could just as easily fit within the field of musicology and vice versa. The cross-over nature of the two fields allow scholars in both disciplines to explore music and musical instruments in complementary ways.

⁵ See Marie E. Kent, "The Piano-Industry Workforce in Mid-Victorian England: a Study of the 1881 Census." *Royal Musical Association Research Chronicle* 46:1 (2015): 95-158 and "Exposing the London piano industry workforce, c.1765-1914" (PhD dissertation: London Metropolitan University, 2013).

⁶ See Jenny Nex, "The Business of Musical-Instrument Making in Early Industrial London" (PhD dissertation: Goldsmiths College, The University of London, 2013).

⁷ See Jocelyn, Howell, "Wind instrument design and manufacture at Boosey & Hawkes and its associated companies: a corporate history" (PhD dissertation: City, University of London, 2016).

⁸ See Margaret Downie Banks, *Elkhart's Brass Roots* (Vermillion, SD: The Shrine to Music Museum, 1994).

manufacturing. As such, this dissertation is continuing the developing scholarship of musical instrument research which explores wider cultural topics through the lens of musical instrument making.

A plethora of material examines the development of the piano industry from its early days in the eighteenth century through its heyday in the nineteenth century. This includes in-depth organological explorations of the technical development of the piano and changes in its design and construction techniques; the establishment of the piano industry; as well as overviews of leading makers, inventors, composers, and performers.⁹ But, the majority of the organological scholarship on the British piano industry stops at the turn of the twentieth century and within this limited source material, even less is written about the impact of the Second World War.

The cultural and social influence of the piano, as well as how its development shaped music and performance practice is also thoroughly explored. This is especially true in musicological research into the influence of the piano, piano music, and pianism in eighteenth and nineteenth century music and culture.¹⁰ As the instrument developed and rose to prominence, the piano became the centre of domestic and professional music making and as Nicholas Temperley states “it is not easy to recapture the excitement and romance that the instrument embodied when it first became widely

⁹ See Marth Clinkscale, *Makers of the Piano Vol. 1: 1700-1820* (Oxford University Press, 1993) and *Makers of the Piano Vol. 2: 1820-1860* (Oxford: Clarendon Press, 1999); Henry Warwick Cole, “The Early Piano Reconsidered.” *Early Music* 14:4 (November 1986); Alfred Dolge, *Pianos and Their Makers* (New York: Dover Publications, Inc., 1972); Cyril Ehrlich, *The Piano: A History* (London: J. M. Dent & Sons Ltd., 1976); and Richard Maunders’s articles “The Earliest English Square Piano?” *The Galpin Society Journal* 42 (August 1989): 77-84 and “J. C. Bach and the Early Piano in London.” *Journal of the Royal Musical Association* 115:2 (1991): 201-210.

¹⁰ Examples of works which document the cultural impact of the piano on eighteenth and nineteenth century musical life include: Ruth A Solie’s chapter “‘Girling’ at the Parlor Piano” from her book *Music in Other Words: Victorian Conversations* (Berkeley: University of California Press, 2004) - an interesting discussion of how the piano became the focus of young women’s education and entertainment in Victorian times; Dorothy de Val, “Gradus ad Parnassum: The Pianoforte in London, 1770-1820 (PhD dissertation: University of London Kings College, 1991), which documents the symbiotic development of the British piano and the piano music publishing industry; and Iain Woodfield’s chapter “The Woman Amateur” in his book *Music of the Raj: A Social and Economic History of Music in Late Eighteenth-Century Anglo-Indian Society* (Oxford: Oxford University Press, 2000), which discusses the importance of the piano to British women living in India in the eighteenth century and documents the difficulty of obtaining and maintaining the instrument in the country. The collection of essays in *The Piano in Nineteenth-Century British Culture*, edited by Therese Ellsworth and Susan Wollenberg (Aldershot: Ashgate Publishing Limited, 2007) explore a wide range of piano-related topics such as the origin of the piano recital, the reception of early piano music, the piano market in Ireland, and the lives of British composers of piano music.

used after about 1770,”¹¹ but with the amount of scholarship focused on the instrument in the eighteen and nineteenth century, it seems that researchers are still finding plenty to write about.

By the beginning of the twentieth century the piano’s place in cultural life was thoroughly established and the instrument and its influence were no longer the focus of extensive examination. For example, the importance of music during wartime, particularly for morale and propaganda purposes, is an interesting topic for musicological and historical research. Examples of recent research which explores music during wartime Britain include Jane Angell’s dissertation “Art music in British public discourse during the First World War,”¹² Kate Guthrie’s “Music and Cultural Values in 1940s Britain,”¹³ and David Allen Sheridan’s “‘Give Us More Music’: Women, Musical Culture, and Work in Wartime Britain, 1939-1946.”¹⁴ But, in each of these three theses, the piano is mentioned mainly in passing, with the focus on music and its role, rather than on the instruments which would have been played. Angell devotes the most time to discussing the role of the piano during wartime when she describes the comforting presence of a piano to people living through the war.¹⁵ She does describe the anti-German sentiment that was rife throughout the London piano industry and how the industry saw the war as a time when they could re-establish the reputation of British-made pianos with the British public, but this information had been previously published by Cyril Ehrlich.¹⁶ Sheridan discusses the piano as a performance instrument in wartime concerts organised by Myra Hess at the National Gallery,¹⁷ and Guthrie mentions the piano in referring to composers or as an instrument played in a film.¹⁸ The three dissertations are important for exploring the perception and

¹¹ Temperley writes this in the forward to *The Piano in Nineteenth-Century British Culture* edited by Therese Ellsworth and Susan Wollenberg (Aldershot: Ashgate Publishing Limited, 2007), xv.

¹² Jane Angell, “Art music in British public discourse during the First World War” (PhD dissertation: Royal Holloway University of London, 2014).

¹³ Kath Guthrie, “Music and Cultural Values in 1940s Britain” (PhD dissertation: King’s College London, 2014).

¹⁴ David Allen Sheridan, “‘Give Us More Music’: Women, Musical Culture, and Work in Wartime Britain, 1939-1946” (PhD dissertation: University of Southern California, 2007).

¹⁵ Angell, 89.

¹⁶ In her discussion of the London piano trade during the First World War, Angell references Ehrlich’s *The Piano: A History* as the source for all of the information. Ibid, 93.

¹⁷ Sheridan, 70.

¹⁸ Guthrie mentions the piano seven times in her dissertation but the piano is never the focus of the discussion. For example, John Ireland and his piano composition *Sarnia* is referenced on page 40; the

importance of art music and popular music during times of crisis in the twentieth century, but they do not give any insights to the position of the piano or the piano industry during the time.

The reason for the lack of organological scholarship on twentieth-century British piano production may be the result of the diminishing prominence of the British piano during this time period. By the beginning of the twentieth century London was no longer the centre of piano making, as this had moved to Germany and the United States of America. Generally, histories of the piano give an overview of the development of the instrument by examining the centres of instrument making, often highlighting predominant makers within their regions and corresponding time periods, but once that region is no longer leading in production or innovative in their design, the scholarship dwindles.¹⁹ Perhaps researchers are less inclined to research a failing or lacklustre industry? Or, perhaps the lessening of primary source materials caused by the failure of an industry has deterred researchers from investigating this time period. Whatever the reason, there seems to be little organological scholarship on twentieth-century piano making overall.

Key studies of the British piano industry in the twentieth century include Cyril Ehrlich's *The Piano: A History*, David Wainwright's *The Piano Makers* and *Broadwood by Appointment*, and Alistair Laurence in his books *Five London Piano Makers* and *More London Piano Makers*.²⁰

Ehrlich, in *The Piano: A History*, and Wainwright, in *The Piano Makers*, give broad overviews of the history of the piano industry. As the books were published in the 1970s, they include information about piano manufacturing in the twentieth century

playing of Rachmaninov's Piano Concerto No.2 at a Proms concert in 1941 is referenced on page 57; and Vera Lynn's piano-playing co-star in the film *We'll Meet Again* is mentioned on page 76 and 77.

¹⁹ This format is used in Alfred Dolge, *Pianos and Their Makers*, (New York: Dover Publications, Inc., 1972); Cyril Ehrlich, *The Piano: A History* (London: J. M. Dent & Sons Ltd., 1976); Stuart Isacoff, *A Natural History of the Piano: The Instrument, the Music, the Musicians: From Mozart to Modern Jazz and Everything in Between*, (New York: Vintage Books, 2012); and David Wainwright, *The Piano Makers* (London: Hutchinson & Co. Ltd., 1975).

²⁰ See Cyril Ehrlich, *The Piano: A History* (London: J. M. Dent & Sons Ltd., 1976); David Wainwright, *The Piano Makers*, (London: Hutchinson & Co. Ltd., 1975); David Wainwright, *Broadwood by Appointment*, (London: The Book Service Ltd., 1982); Alistair Laurence, *Five London Piano Makers: Brinsmead, Challen, Collard, Danemann, Welmar*, (London: Keywood Press, 2010); and Alistair Laurence, *More London Piano Makers: Eavestaff, Rogers, Squire, Knight, Chappell, Hopkinson*, (London: Keywood Press, 2015.)

and the Second World War, but neither author devotes much research to this period. Whereas Wainwright wrote extensively on the effects of the First World War on the British industry, the Second World War is discussed in much less detail, with only two pages dedicated to the subject.²¹ In his short overview of the war, Wainwright mentions the Concentration of Industry Scheme, but fails to mention any other restriction placed on the industry. He does mention piano production for the military, and some war production contracts, but Wainwright does not include notes and his book lists only 31 sources in his bibliography, so it is difficult to validate his information. Additionally, through the research conducted in this thesis, it was discovered that the dates given by Wainwright for the return to piano manufacturing in the post-war years are incorrect.²² This thesis looks to rectify this misinformation.

Wainwright follows a similar treatment of the war in his *Broadwood by Appointment*. In this study three pages of text give the summary of the company during the war period.²³ As Wainwright used the John Broadwood and Sons Archive at the Surrey History Centre as a source for his research, he had much more information available to him for this period of time, but he chose not to include it in the book.²⁴

Ehrlich's book is considered a seminal source on the history of the piano industry. The book is an important reference for both the international growth and decline of the industry, but in his book the author writes just one paragraph on the war in the concluding chapter. He states:

The Second World War was less disruptive to piano making than the first because there was less to disrupt. Some factories were destroyed in air raids, including Blüthner's, and some firms were forced out of business by shortage of men and materials. But many small or weak makers had been eliminated during the Depression, and further concentration through market forces or government decree merely continued an existing trend. In Britain, the most important difference was that the industry no longer depended upon foreign components, which again eased adjustment to wartime conditions. Production was diminished, of course, and standards tended to decline, which disturbed musicians but had little effect on a general public for whom pianos no longer

²¹ Wainwright, *The Piano Makers*, 160-161.

²² Wainwright states that piano manufacturing for the domestic market was restarted in 1951. Resumption of Home Trade for the piano industry was started in July 1949 when manufacturers were able to produce a limited number of instruments for the domestic market. (See Appendix 2 for a timeline of Government restrictions on the piano industry.)

²³ Wainwright, *Broadwood by Appointment*, 308-310.

²⁴ Wainwright lists the archives in his references.

occupied a central place in expenditure and aspiration. Occasional incidents, such as the purchase of a second hand instruments in which the action's tapes had been replaced with elastic bands, were illustrative of a sellers' market, but people were not sufficiently eager to buy for a 'munition workers' scandal to develop comparable to that of 1915-19.²⁵

Certainly, there were fewer piano makers in Britain than during the previous war, but those makers still have an important story to tell. During 1939-1953, the British piano industry faced enormous difficulties: from material shortages, Government restrictions, forced consolidation, to labour shortages, it is impressive that any of these companies were able to remain solvent during and after the war. How the piano industry met the difficulties is worthy of investigation.

Alastair Laurence has spent considerable effort documenting the history of individual piano companies, and much of his work focuses on the twentieth century. In his books he includes the histories of eleven London-based piano making firms: Brinsmead, Challen, Chappell, Collard, Danemann & Company, Eavestaff, Alfred Knight, Rogers and Hopkinson, Squire, and Welmar. Laurence included information regarding the piano companies' production during the Second World War, but the information presented is often vague and because he does not take into account all of the restrictions placed on the piano industry during the time. Ultimately his timeline of piano production during the war years is inaccurate.²⁶ Either way, the books were invaluable resources for this dissertation.

Whereas there is a lack of information on the piano industry during the Second World War, there have been numerous published studies regarding the restrictions and regulations used by the British Government in order to control manufacturing during the war years. The British Government published the official history of the war through a series of publications which documented the war. Useful books from this series included *British War Production* by Michael Moïsey Postan, *The Control of Raw Materials* by J. Hurstfield, and *Contracts and Finance* by William Ashworth.²⁷ These

²⁵ Ehrlich, 194.

²⁶ In particular Laurence may not have taken into account the strict restrictions placed on the piano industry by the Board of Trade and the influence the Ministry of Labour and National Service had in shutting down piano production in 1943. Laurence states that makers were producing pianos in 1944 and 1945 but this is in conflict with the regulations placed on the industry by the Board of Trade.

²⁷ These three books are part of the British Official History of the war. The book series began in 1949 and had its last publication in 2004. See Michael Moïsey Postan, *British War Production*, (London:

publications look at the process of mobilisation from a broad perspective, giving overviews of the structure of the Government and the reasoning for the Government's motives for closing down domestic production of what was deemed "luxury" items.

More critical analysis of the organisation of mobilisation can be found outside official Government publications. Examples of this writing includes the work of G.D.N. Worswick and A. Briggs, in their articles about the controls placed on raw materials in articles in the *Oxford Economic Papers*, as well as Maurice Hankey's *Government Control in War*, Ronald Weeks' *Organisation & Equipment for War*, and Mary Murphy's article "Wartime Concentration of British Industry" from the *The Quarterly Journal of Economics*.²⁸ These publications focused more on the effects of the mobilisation effort on the British economy.

The mobilisation of the British economy is an interesting topic for researchers but most of the publications provide a macro-approach to their studies. Individual industries, particularly industries not related to the military, are not examined. The piano industry receives no mention in any of these publications but they were useful sources for creating the timeline of restrictions placed on the piano industry during this study's period.

As secondary sources give little data on the impact of the Second World War on British piano production, much of the research undertaken for this thesis has been done through studying archival documents and the piano industries' trade publications in order to create a timeline of the impact of the war on the industry. The sources consulted include archives of the British Government, individual company archives, and the *Music Trades Review*.

Her Majesty's Stationery Office, 1952); J. Hurstfield, *The Control of Raw Materials*, (London: Her Majesty's Stationery Office, 1953); and William Ashworth, *Contracts and Finance*, (London: Her Majesty's Stationery Office, 1953).

²⁸ See Ian Bowen and G. D. N. Worswick, "The Controls and War Finance," *Oxford Economic Papers* (September 1940): 77-104 and G. D. N. Worswick, "British Raw Materials Control," *Oxford Economic Papers* (April 1942): 1-44; A. Briggs, "The Framework of Wool Control" *Oxford Economic Papers* (November 1947):18-45; Maurice Hankey, *Government Control in War* (London: Cambridge University Press, 1945); Weeks, *Organisation & Equipment for War* (London: Cambridge University Press, 1950); and Mary E. Murphy, "Wartime Concentration of British Industry," *The Quarterly Journal of Economics* 57:1 (November 1942): 129-141.

The papers of the Board of Trade preserved at the National Archives, Kew, provide a first-hand look at the governmental planning of the war economy. The archive showed how the Government needed to shut down the piano industry in order to re-direct vital resources but knew that by doing so it would damage the industry. The papers include internal correspondence between civil servants working at the Board of Trade, Ministry of Labour and National Service, and Ministry of Supply, as well as letters from members of the piano industry. Reports provided by the piano industry include production statistics before the piano manufacturing was stopped in 1943. The papers are kept in two files: “Piano Industry General Policy” (BT 64/1783) contains production information and correspondence relating to the closing of the industry up until 1943; “Piano Industry Reconstruction” (BT 64/1786) contains papers relating to the reconstruction of the industry beginning in 1942. Additional Government documents consulted at the National Archives were that of the Ministry of Aircraft Production and Royal Air Force papers. These papers contained information which related the design of the Mosquito bomber to the skills that the piano industry needed in its manufacture. The two most useful files were: “Mosquito” (AIR 20/2884) and “Research and Development – Unarmed bomber” (AVIA 46/116).

Two company archives were consulted in researching this thesis in order to give a more in-depth look at the impact of the war on individual companies. They were the John Broadwood and Sons Archive preserved at the Surrey History Centre, Woking, and the Kemble Archive, Hackney Archives, Hackney. Both archives contained information relating to the production of pianos and other war-related items during the Second World War. The Broadwood archive is extensive and contains the Minutes of the Meetings of the Board of Directors, which included reports on the status of the company, rate of production, consolidation of the company, damage to the factory, as well as information on the difficulty of obtaining war production contracts. In addition, the Broadwood archive included the sales books of the company and the year-end reports for the period of the thesis. The materials preserved in the Kemble archive were less complete and they do not thoroughly document the history of the company. Rather, the archive is a hodgepodge of items that were donated to the Hackney Archives by Michael Kemble, director of Kemble, when the factory closed. Nevertheless, the archive contained some information on war-time production,

wholesale and retail price lists, photographs, newspaper clippings, deeds to properties, and legal agreements between Kemble Company and other piano manufacturers. In addition to research undertaken at the Kemble archive, the author conducted a personal interview with Denzil Jacobs, a former director of Kemble, who was an employee of the company during the study period.

The trade publication primarily consulted for this thesis was the *Music Trades Review*, which included valuable information on the status of the industry before, during, and after the Second World War. The publication included reports on production, damage to piano factories, company consolidation, and factory and company closures. The *Music Trades Review* also was a source for Government regulations as it printed Government documents detailing the Excess Profit Tax, Purchase Tax, Limitation of Supplies Orders, and Control Orders for piano manufacturers. It must be said that the publication was prejudiced towards the situation of the industry and could be inflammatory in its rhetoric, but its reprinting of Government documents and reporting on individual manufacturers was invaluable.

The chapters are presented, as far as possible, in a chronological order. This is done to create a timeline of the impact of the war on the British piano industry, particularly in regard to piano production. Chapter 1: History of the British Piano Industry gives a broad overview of the development of the British piano industry up until the beginning of the Second World War and allows the readers to familiarise themselves with the history of British piano manufacturing. This chapter reviews the rise of the industry in the late eighteenth century, its dominance in the nineteenth century, and its subsequent downfall in the twentieth century. Attention is given to the geography of the British piano industry, its centralisation in London, and how this location was helpful to the industry's development. The status of the industry in the early part of the twentieth century and the impact of the First World War and the following Depression in the inter-war years lays the foundations for the subsequent chapters which will explore the Second World War and its impact.

The next chapter, Chapter 2: Mobilisation for War, presents a study of the organisation of the mobilisation of the British Government in the inter-war years and in the first few years of the war. This chapter explores the development of the British war machine

and the various ministries which would have an impact on the piano industry. It includes a discussion of Britain's initial reluctance to mobilise and then the steps that were taken in order to change the economy from one focused on civilian production to that of war production. This includes the methods the Government used in order to control production, materials, and labour. The chapter follows the development of the war economy until the country was considered fully mobilised.

The exploration of raw materials used in piano manufacture and the steps the British Government took to control them is explored in Chapter 3: The Restricted Materials Used in Piano Construction. The chapter explains why one of the main reasons the Government needed to close the piano industry was the need of the materials used in piano production for the war effort. One method used to halt piano production was the restriction of raw material, ultimately helping to make piano manufacturing impossible. This chapter analyses the various materials used in the construction of a piano, how those materials were needed for the war effort, and the organisation which was responsible for its regulation. The use of timber, iron and steel, and wool is examined in three ways: the use of the materials in piano construction; the needs of that material in the war effort; and the control of the material by the Government.

Chapter 4: The Impact of Government Restrictions on Piano Production presents a timeline of the closure of the piano industry by examining the restrictions and taxes implemented by the British Government in the mobilisation effort. This includes the Excess Profits Tax, Purchase Tax, Limitation of Supplies Order, and the Concentration of Industry Scheme. These restrictions prohibited both production and purchasing of pianos and forced the industry to consolidate in order to free labour and factory space. The impact of these restrictions and how the industry responded is explored. In addition, changes in the piano industry's labour force and types of war production contracts granted to the industry is presented.

The process of restarting the piano industry was one that took many years and Chapter 5: The Lean Years and Reconstruction explores how the Board of Trade organised the reconstruction of the industry and the obstacles that stood in the way. The chapter shows that although the Board of Trade wanted to help the industry restart after the war, the economic situation of Great Britain continued to prohibit piano manufacturing

long after the war had ended. How the piano industry survived in the immediate post-war era is explored, as well as how the Government's push towards exporting instruments impacted the industry.

Investigations into individual piano manufacturers' production during the war shows how the conflict differently impacted firms. Chapter 6 and Chapter 7 are two case studies which show this in detail. The first, a case study of John Broadwood and Sons, presents a company that had a very difficult time throughout the war period. Unable to obtain war contracts, the company was forced to close its factory, release its labour, and consolidate with its competitor. The chapter gives an in-depth look at the impact of the war on the company, highlighting the difficulty of the piano company and the steps the firm took to stay in business during the war years. The chapter serves as an example of the negative effect the Second World War had on a piano firm. In contrast the second case study of Kemble and Company highlights how this firm flourished during the war years. The company specialised in small, economical instruments, and the affordability of the company's pianos coupled with their large factory and labour force allowed for Kemble to receive extensive war production contracts throughout the war period. These contracts helped Kemble in the immediate post-war years as the firm maintained its workforce and factory space, thus it was more quickly able to convert its factory back to piano production.

Finally, the overall effects of the war on the British piano industry is discussed in Chapter 8: Conclusion. The chapter explores how the cessation of piano production in Britain during and after the war years had an impact on the industry and how the piano industry was never fully able to recover. The post-war years were difficult for the industry as competition came not only from imported foreign-made pianos but also from alternative forms of entertainment. The question of whether or not the British piano industry would have been better placed to face these new forms of competition if the industry had more quickly recovered from the war is explored, as is the eventual failure of the entire industry.

Chapter 1: History of the British Piano Industry

From its founding in the eighteenth century to the closure of the last piano factory in 2009, the British piano industry has had a turbulent history. The British piano industry can trace its history back to the Seven Years Wars, the industry massively expanded during the industrial revolution as it adopted modern manufacturing techniques, and lost its position as the largest producer of pianos in the world to growing globalisation in the late nineteenth century. The industry faced its most challenging time during the twentieth century, when world wars and the Depression would diminish its standing.

In order to understand how the piano industry adapted and reacted during the Second World War, it is important to review the history of the industry, laying out its position at the start of the war, and exploring how the industry had responded to challenging times in its past. Rather than give a detailed explanation of the technical developments of the piano, the response of the British piano industry to times of both prosperity and crisis will be examined.

Development of the British Piano Industry

The invention of the piano by Bartolomeo Cristofori in around 1700 did not immediately shake the musical world. On the contrary, this new instrument would have a long gestation period before actually affecting a musician's or composer's choice of keyboard instruments. In England, it would be more than half a century after the piano's invention before the instrument began to be regularly made and played on British soil. But, after the piano set down its roots, the instrument would become the predominant keyboard instrument and London would become the world centre of piano manufacturing.

Although it would take until the second-half of the eighteenth century for the piano to become a more common sight on the British musical scene, a few instruments were brought to England in the first half of the eighteenth century. This includes what is believed to be the first piano to be brought to London in 1711 by the author Samuel Crisp, who purchased the piano in Rome. Although the instrument "caused a considerable sensation among musicians" no maker had any success in duplicating the

instrument.²⁹ Sadly the “sensational” instrument was just that and it would not be until 1760 that the British piano industry can claim its true beginnings.

In general, the founding of the British piano industry can be traced back to the Seven Years War. As Prussia, Austria, France, and Russia battled each other on the European continent, England seemed a safe haven to European makers wanting to leave war-torn regions. The United Kingdom, although aligned with Prussia and Russia and battling France in North America, saw no fighting on its own soil and was more financially stable than continental Europe. In addition, English craftsmen were not regulated by a complicated and rigid guild system like in Europe³⁰ and London was a burgeoning musical centre.³¹ These factors combined in enticing instrument makers to leave the continent and emigrate to London.

Among the makers that left Europe were Americus Backers, Johanne Zumpe and Johannes Pohlmann, all of whom were apprentices of Gottfried Silbermann in Freiberg. The apprenticeship with Silbermann was instrumental in the development of the British piano industry because Silbermann had Cristofori’s designs translated into German in 1725 and had begun making pianos based on the designs. His instruments were known by Johann Sebastian Bach and King Frederick of Prussia.³² When Backers, Zumpe, and Pohlmann arrived in London in 1760 they came with the knowledge of how to build a piano.

For a time Zumpe worked for Burkat Shudi, owner of one of the two most established harpsichord workshops in London – the other being Jacob Kirckman. Eventually Zumpe, like Backers and Pohlmann, established his own workshop.³³ Zumpe located his workshop in Hanover Square, only 500 meters from Shudi.³⁴ It is believed that

²⁹ It is said that Crisp bought the piano from an English monk named Father Wood, who based the piano on Cristofori’s design. Wainwright, *The Piano Makers*, 24.

³⁰ Ehrlich, 19.

³¹ Wainwright, *The Piano Makers*, 27.

³² Additional makers from Silbermann’s workshop also immigrated to London during the Seven Years War. This group of makers has been referred to as ‘The Twelve Apostles’ and the nickname has been used in a number of books and articles, but it is erroneous. Ibid, 26.

³³ Shudi was Swiss and Kirckman from Strasbourg. They had both apprenticed with Hermann Tabel in London. Wainwright, *The Piano Makers*, 29.

³⁴ J. T. Oliver, “Piano Manufacture,” *Geography* (November 1975), 277.

Zumpe built his first square piano in 1766 as there are no earlier known instruments.³⁵ Zumpe's instruments were small, plain, with little decoration, and have a simple action. This simple construction made the new square piano much cheaper and easier to manufacture than the harpsichord and they quickly became very popular, especially for the well-to-do middle class³⁶ where the instrument filled a gap in the market.³⁷ Soon the demand was more than Zumpe could satisfy and Johannes Pohlmann began to manufacture square pianos as well.³⁸ Zumpe's success with the square piano and his innovative factory-system of construction has earned him the title of "father of the commercial piano."³⁹ As the piano became more common, printed music for the instrument began to be produced, and the earliest known English publication of music whose title-page mentions the piano is Johann Christian Bach's Op. 5 sonatas, published in 1766.⁴⁰

³⁵ Mauder argues that the 1766 Zumpe piano in the collection of Emmanuel College, Cambridge is the earliest known extant Zumpe piano. Mauder, "The Earliest English Square Piano?," 83.

³⁶ Although Dolge uses the term "middle class" to describe the purchasers of Zumpe's pianos, this term does not fully describe or delineate between the complicated and dynamic social class system that was continuously shifting during the eighteenth century. According to the author Daniel Defoe, there were seven divisions of English society during this time. These included the great, the rich, the middle sort, the working trades, the country people, the poor, and the miserable. Of these seven classes it difficult to divide the groups into "upper, middle and lower classes" as the socio-economic situation of individuals was fluid, and a person's status depended not only on their wealth or occupation, but also on their location, religion, and influence. If we are to describe who could have purchased Zumpe's pianos it would be more appropriate to say they would have been purchased by people in Defoe's "middle sort" and even perhaps in the "working trades" who had occupations such as merchant, tradesmen, manufacturer, tenant-farmer, and artisan. A growing number of members of these social divisions had enough wealth to purchase property, send their male children to school and university, and to purchase a musical instrument to be used in domestic life. Roy Porter, *English Society in the Eighteenth Century*, (London: Pelican Books, 1982), 53-54.

³⁷ A Zumpe square piano sold for £50. The price of the instrument was less than Dolge, 172.

³⁸ Wainwright, *The Piano Makers*, 29.

³⁹ Dolge, 172.

⁴⁰ Mauder, "J.C. Bach and the Early Piano in London," 202.



Figure 1. Square piano by Johannes Zumpe, London, 1767. MIMEd 4339. Image courtesy of Musical Instrument Museums Edinburgh, The University of Edinburgh.

As Zumpe and Pohlmann developed and produced the English square piano, Americus Backers, working with John Broadwood and Robert Stodart, began building a “grand” piano.⁴¹ Backers’ earliest known grand piano is from 1772, an instrument formerly on loan to Musical Instrument Museums Edinburgh (MIMEd). Although this instrument is dated 1772, it is believed that Backers was making grand pianos as early as 1770 or 1771, but no extant example survives.⁴² Backer’s piano has a version of the Cristofori action but with the addition of a check on the descending hammer.⁴³ It was first described in a patent in 1777 and became known as the “English Grand Action.”⁴⁴

⁴¹ The term “grand piano” is slightly anachronistic in referring to Backer’s instrument. The term was first used by Robert Stodart when he built his first concert piano which he called a “grand pianoforte” in 1777. Dolge, 59.

⁴² The piano formerly in the MIMEd collection is number 21, implying that 20 previous instruments had been made. In addition, Backers advertised exhibiting pianos in his London showroom in February and March of 1771, again implying he had instruments already made and ready to be displayed. Maunder, “J. C. Bach and the Early Piano in London,” 206.

⁴³ The check, also known as the back check, is a small leather-covered wooden block which catches the tail of the piano hammer as it rebounds from hitting the string and prevents it from bouncing back up.

⁴⁴ Wainwright, *The Piano Makers*, 31-32.



Figure 2. Grand piano by Americus Backers, London, 1772, No. 21. Formerly in the care of MIMEd. Photo courtesy of Musical Instrument Museums Edinburgh, The University of Edinburgh.

With Zumpe and Pohlman established in square piano production and Backers laying the foundations for the grand piano, the English piano industry was set into motion. The growth of the sector would be expansive and the piano itself would see rapid advancement in technology and commercialisation.⁴⁵ Additional innovators would join in the development of the piano. These include familiar names such as John Broadwood, who began working for Burkat Shudi and eventually took over the firm;⁴⁶ Sebastian Erard, who fled the French Revolution and set up business in London in 1792;⁴⁷ and Muzio Clementi who went into the piano manufacturing business in 1795.⁴⁸

⁴⁵ Ehrlich, 14.

⁴⁶ Wainwright, *The Piano Makers*, 30.

⁴⁷ Ibid, 35.

⁴⁸ Clementi and partners Banger, Hyde, Collard and Davies took over Longman and Broderip when that firm went bankrupt in 1795. Within a year all the partners but Collard dropped out and the company became Clementi and Collard. Clementi was never a maker; he was the salesman while Collard was the piano maker. Ibid, 43.

Encouraging the development of the piano industry were performances and composers. After the debut of the piano in a performance of *The Beggar's Opera* in Covent Garden in 1767 and a recital by Johann Christian Bach on the piano in 1768, the piano became more accepted as a solo instrument and composers began writing idiomatic pieces for the instrument.⁴⁹ Clementi is said to have written the first piece of music composed specifically for the piano in 1773 and he was soon followed by other composers such as Mozart and Beethoven.⁵⁰ Instrument makers met the demand for pianos by transitioning from making harpsichords to making pianos. For example, John Broadwood transformed Shudi's harpsichord workshop, which produced fewer than 20 harpsichords a year, to a piano factory, which produce an average of 400 pianos a year by 1802.⁵¹ The popularity of the piano rose so quickly that by the turn of the nineteenth century the piano had become the preferred keyboard instrument and the harpsichord was no longer in vogue.

London was ideally situation to be the home of the British piano industry. Early makers set up their businesses in Soho in the West End, where furniture makers such as Thomas Sheridan and Thomas Chippendale were based, and there was an established shipping network and accessible wood supply.⁵² The city itself was benefitting from the industrial revolution and piano factories, as they came to be, used a factory set-up in their manufacture. Although some machinery was used in piano construction (steam-driven machines, circular saws, and planing machines were available) much of the work was done by hand but with considerable division of labour.⁵³ The breadth of the English empire also aided the industry in its development. Supplies such as exotic woods like ebony, mahogany, and rosewoods, as well as ivory, were easily obtained. In addition, instruments were sold not only throughout the country but also overseas thanks to extensive British shipping networks and the reach of the Empire.⁵⁴

⁴⁹ Isacoff, 52.

⁵⁰ Wainwright, *The Piano Makers*, 37.

⁵¹ Ibid, 31.

⁵² Oliver, 274.

⁵³ Erlich, 34.

⁵⁴ Isacoff, 52.

It is believed that by 1830 there were around 50 piano makers in London.⁵⁵ Depending upon the source, by 1851 London had either 151 or over 200 firms producing 25,000 pianos a year⁵⁶ and over the next four decades this number would continue to grow. The expansion of the British piano industry was due largely to the growth of what today we would call the “middle class:” a population in the United Kingdom which had more extraneous income and higher social ambitions.⁵⁷ An important aspect of this socio-economic group was a musical education, especially for daughters. A girl’s ability to play the piano was a way for parents to improve their child’s marital prospects and as a result, well educated (and therefore desirable) ladies were expected to be musical.⁵⁸

Expansion and Innovation: Nineteenth-Century Piano Trade in London

At the turn of the nineteenth century the piano industry in London was just starting to hit its stride. In addition to square and grand pianos, makers were developing new designs, such as cabinet and upright pianos. The instruments, like the square piano, were mainly marketed to the middle class. But, with these new designs came advancement in piano technology, such as the adoption of diagonally running strings, coiled wire on the bass strings,⁵⁹ and new action models.⁶⁰ Grand piano design was

⁵⁵ Wainwright, *The Piano Makers*, 82.

⁵⁶ Dolge lists 151 piano firms making 25,000 pianos a year, Dolge, 172–173, while Erlich puts that number at over 200 piano manufacturers, Erlich, 34.

⁵⁷ It is estimated that the percentage of the population who could be considered middle class (those with an annual income of £200 to £300 per annum) grew from 15% in the late eighteenth century to 25% by the mid-nineteenth century. Leonore Davidoff and Caltherine Hall, *Family Fortunes: Men and women of the English middle class 1780-1850* (London: Routledge, 1987); 23-24.

⁵⁸ The role of gender and the piano is explored in “‘Girling’ at the Parlor Piano” in Ruth A. Solie’s *Music in Other Words: Victorian Conversations*. This interesting essay explores why the piano became so strongly associated with female domesticity and education in Victorian times and discusses the cultural perceptions and prospects of a musically educated girl. Ruth A Solie, *Music in Other Words* (Berkeley, CA: University of California Press, 2004); 85-117.

⁵⁹ John Isaac Hawkins, an English piano maker working in Philadelphia, developed an upright piano in 1800. It was patented in England by the inventor’s father Isaac Hawkins. According to Wainwright the instrument may have been the first use of coiled wire for the bass strings. Wainwright, *The Piano Makers*, 58.

⁶⁰ In 1802 Thomas Loud of London patented an upright piano with strings running diagonally. Robert Wornum patented his “piccolo” upright action in 1826. This action became the prototype of all upright actions. It was later adopted by Pleyel of Paris and became known as the “Pleyel” action. Dolge, 54.

also rapidly advancing. From its commencement in the 1770s in England the instrument advanced from what was essentially a piano action placed within the body of a harpsichord, to a fully developed instrument with its own dimensions and design. These innovations went hand-in-hand with the establishment of the English piano trade.

Examples of English innovations in piano design included the addition of a foot pedal to control the damper mechanism by John Broadwood in 1783.⁶¹ William Allen and James Thom, employees of William Stodart, developed a system of tubular metal bracing tubes in 1820.⁶² This system would lead to the development of the iron plate, although the first full iron frame would be patented by Alpheus Babcock, an American, in 1825.⁶³ American and German makers quickly adopted this new technology, but British makers were slow to add the full iron plate to their instruments, instead preferring partial metal bracing even in the second half of the nineteenth century.⁶⁴ This lethargy in embracing new designs would eventually come to hurt the industry when British makers would have to compete with foreign imports.

The piano action also developed throughout the nineteenth century. As the instrument was able to withstand more tension because of the addition of metal supports, piano strings were changed from thin, soft iron wire to strong, tempered steel wire. The adoption of steel piano wire necessitated a change in piano hammer design with the small, delicate leather-covered hammers of Cristofori's design replaced with larger hammers made of dense felt. This felt was first patented by P. F. Fischer of London in 1835.⁶⁵ The moving parts of the action were modified to meet the changes of the piano and innovations such as Pierre Erard's "repetition or double escapement action" allowed player to repeat notes more rapidly.⁶⁶

⁶¹ Wainwright, *The Piano Makers*, 33.

⁶² Victoria and Albert Museum online catalogue, "Grand Piano," W.5-1952, accessed 21/10/2015. <http://collections.vam.ac.uk/item/O58874/grand-piano-stodart-william/>

⁶³ Babcock patented the iron frame for the square piano. Jonas Chickering, another American, followed with the grand piano iron frame of 1843. The addition of metal supports to the all-wooden frame greatly increased the amount of tension a piano could withstand, increasing from 9,000 pounds of pressure to 13,000. Modern grand pianos, with their full iron plates can withstand between 30,000 and 40,000 pounds of pressure. Dolge, 69.

⁶⁴ Ibid 71.

⁶⁵ Ibid, 98.

⁶⁶ Pierre Erard was nephew of Sebastian Erard. Ibid, 61.

By the middle of the nineteenth century London had become the centre of the piano world. It is estimated that by 1871 the number of pianos in the British Isles was around 400,000.⁶⁷ With such a large number of piano manufacturers centred in London and producing a substantial output of instruments, a considerable number of manufacturers of auxiliary parts developed. These companies included iron foundries that manufactured iron plates, makers of hammer felt,⁶⁸ hammers, strings,⁶⁹ piano keys, wrench pins, key leads, castors, and candle-sconces. In addition, there were workshops that worked on the finishing of pianos and specialised in gilding, marquetry, French polishing, silk work, and cabinet work.⁷⁰ Although many of the parts of a piano could be sourced from English manufacturers, certain parts, such as wrest pins and tuning pins, were not available domestically. These items were traditionally made by a small number of manufacturers in Westphalia, Germany, and the makers had a monopoly on their manufacture.⁷¹ This reliance on foreign imports for certain parts (wrest pins, tuning pins, and later piano actions) would hurt the piano industry in times of crisis, such as during the First and Second World Wars.

In addition to locally supplied and imported specialised piano parts, piano manufacturers relied on a complex international supply network for raw materials. The raw materials needed for the manufacture of pianos came from all corners of the globe. For example, ebony and ivory were sourced from Asia and Africa, while various kinds of woods, whether it was spruce for the sound board or mahogany and rosewood for veneer, could be sourced from Europe, North and South America, or the West Indies. This is also true for the wool that was used for felt and the iron ore and copper used for manufacture of strings, pins, and plates. In order to manufacture a piano, a large supply industry needed to be in place. This supply network was vulnerable to fluctuation in the market, import and export duties, and trade embargoes.

⁶⁷ Isacoff, 52.

⁶⁸ Whitehead Brothers of Manchester were the first manufacturers to specialise in making piano hammer felt in the 1840s. Other English manufacturers included Naish and Wilton, England, started in 1859, and Dolge in 1871. Dolge, 121.

⁶⁹ String makers included Webster & Horsefall of Birmingham, Rollason & Son, Smith & Houghton. Ibid, 123.

⁷⁰ "Piano Manufacture in Camden Town," accessed 26 October 2015, <http://www.locallocalhistory.co.uk/industrial-history/piano/page1.htm>

⁷¹ Dolge, 128.

Around 1860 London had reached its zenith as the leading piano manufacturing centre in the world and the industry was about to face enormous pressure from both Germany and America. As previously stated, England was slow to adopt new methods of piano design and generally continued to manufacture older styles of instruments, rather than adopting what was then considered the “American style” of piano construction, which included a full iron plate and cross stringing.⁷² The industry, which pioneered factory production in the eighteenth century, was now slow to adopt machinery into its manufacturing process, unlike its American competition which had embraced industrial machinery in its piano manufacturing in the late nineteenth century. The machines aided in sawing, planing, boring, mortising, and tenoning the various parts of the pianos. The addition of machinery allowed American companies to speed up production whilst limiting costs. England, on the other hand, continued to rely on a large supply network, readily available cheap labour willing to do manual work, and local demand for pianos in order to continue to be competitive.⁷³ The importation of affordable American and German pianos was about to change England’s supremacy in the piano trade.

The end of the Franco-Prussian War in 1870 was another influential moment for the British piano industry. With the end of the war came the unification of Germany and the beginning of the German industrial machine.⁷⁴ By 1875 the number of workers involved in musical instrument manufacture in Germany had doubled from the less than 8,000 workers listed in 1861, and would triple by 1882. It is estimated that of the roughly 45,000 people working in instrument production in 1882, 63%, or around 28,350 people, were employed in the manufacture of pianos.⁷⁵ Between 1850-1890 more than 200 piano factories were started in Germany.⁷⁶ Of the large number of pianos manufactured in Germany during this time, only half of the instruments were

⁷² The full iron plate was a product of American innovation, but it took the addition of overstrung strings to improve the sound quality of the new technology. This combination of a full perimeter plate and overstrung strings was first demonstrated in 1855 by Steinway. In the 1862 London exhibition and the 1867 Paris Exposition, American pianos of this design took the top honours and thus the “American system” was born. German companies were quick to adopt this system, but French and English companies resisted. Ibid, 71.

⁷³ Erlich, 39.

⁷⁴ Wainwright, *The Piano Makers*, 119.

⁷⁵ Erlich, 68.

⁷⁶ Wainwright, *The Piano Makers*, 122.

sold domestically, the other half were exported to countries eager for well-made but affordable instruments and England became one of Germany's largest markets.

Initially German imports filled the gap between expensive instruments (like those made by Broadwood) and cheap pianos. The importation of these instruments made the piano market in the U.K. more competitive, broke up the British monopoly on pianos, lowered piano prices, and in general was a benefit to consumers – but not to English makers.⁷⁷ The rise of German dominance in the industry was remarkable and by 1912 Germany exported £2,136,700 worth of pianos while British exports totalled £325,280. Germany's exports to Britain alone totalled well over £500,000.⁷⁸ The production of German pianos increased from fewer than 15,000 instruments produced in 1870 to 70,000 instruments in 1890.⁷⁹ The German pianos were so well sought after that “stencil” instruments made in Britain were labelled with Germanic names to make them more appealing.⁸⁰ Much of Germany's success could be attributed to its willingness and ability to adopt the latest technology; its widespread reputation for technical, commercial, and scientific education; use and distribution of catalogues; and the prestige of German music and composers.⁸¹

But Germany was not the only country chipping away at Britain's dominance in the world piano market. America was also gaining a larger foothold on foreign markets. An indicator of the growing popularity of American pianos was in 1890 when Steinway received its first Royal Warrant. Soon Steinway could boast selling to patrons as prestigious as Queen Victoria, the Prince and Princess of Wales, and many dukes, earls, and lesser nobility.⁸² By 1890, the United States would become the largest

⁷⁷ Ehrlich, 88.

⁷⁸ Wainwright, *The Piano Makers*, 123.

⁷⁹ Ehrlich, 221.

⁸⁰ A “stencil” instrument was generally a cheaply made instrument made by a manufacturer but labelled and sold under a different name with no mark from the manufacturer. These instruments were commonly sold by department stores, mail order catalogues, and distributors. The stencil refers to the name which could easily be changed and “stencilled” on the instrument. There were a number of piano factories in London which specialised in this type of piano production. Ehrlich, 90.

⁸¹ Sonja Petersen, “Piano Manufacturing between Craft and Industry: Advertising and Image Cultivation of Early 20th Century German Piano Production,” *Icon* (2011), 20.

⁸² Wainwright, *The Piano Makers*, 119.

manufacturer of pianos in the world, producing 72,000 instruments and by 1910 that production number would more than quintuple.⁸³

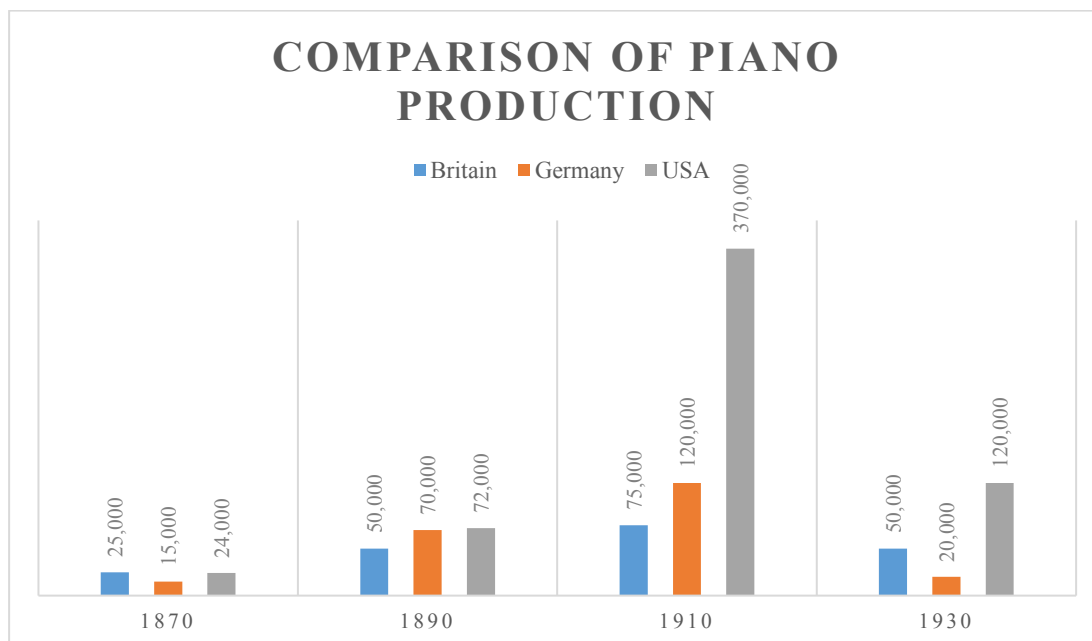


Table 1. Production numbers of instruments made in Britain, Germany, and U.S.A. according to Edwin M. Ripin, et al. "Pianoforte." Grove Music Online. Oxford Music Online. Oxford University Press, accessed January 19, 2017, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/21631>.

There were no trade restrictions or tariffs on imported pianos in the nineteenth century, and German and American pianos were flooding the British market. The lack of tariffs initially helped British makers keep the price down on their own pianos as they did not have to pay tariffs on imported piano parts or raw materials for their own manufacture, but would prove hurtful to the British industry when foreign imports became more affordable than domestically produced pianos.⁸⁴ Even with the influx of foreign-made instruments, there was still a favourable supply and demand balance for pianos in Britain. Much of this was a result of the rise in living standards, not only among a growing middle class, but also for the working class.⁸⁵ This burgeoning socio-economic group was purchasing pianos in record numbers and in order to make pianos

⁸³ Ehrlich, 221.

⁸⁴ Ibid, 150.

⁸⁵ Ibid, 94.

more affordable to the working class, piano companies began selling instruments through “deferred payment” plans.⁸⁶ This system allowed a buyer to “hire” a piano over the course of three years and pay instalments toward its purchase. This system was widespread by the 1860s.⁸⁷ Stencil pianos were also marketed to this group of buyers (often through deferment plans) and companies who manufactured stencil instruments included Danemann & Co., Brasted, Bansall, Cremona, Kemble, Triumph, Spencer, Squire, and Zender.⁸⁸

The division of classes was also evident amongst the piano industry at the end of the nineteenth and early twentieth centuries with three distinct “classes” of pianos makers in London. There was the established, “high quality” firms of Broadwood, Collard and Collard, and Kirckman, who acted almost as the landed gentry of the piano industry and very much above their fellow piano makers, dealers, and musicians. Ehrlich described this group of makers’ behaviour towards their fellow industry members this way:

For such men, hobnobbing with the elite was a delightful and essential perquisite of their business, more important than those close relationships with musicians and craftsmen which their predecessors had carefully nurtured. This position in society was to be sullied by too familiar a relationship with dealers or lesser piano makers. There was cause here for much inefficiency and bad feeling in the trade.⁸⁹

These firms resisted change in piano design and technology and relied on the strength of their brand and customer loyalty. As a result, they were facing dwindling sales.⁹⁰

Next there was a group of medium-sized “middle class” makers such as Allison, Barrate & Robinson, Brasted, Brinsmead, Challen, Chappell, Cramer, Danemann, and Rogers. These companies tended to manufacture upright pianos and embraced new technology and designs. Many of these companies also produced stencil instruments which were sold wholesale to retailers. The final group comprised the small-scale

⁸⁶ Also called “hire-purchase” plans by companies such as Broadwood & Sons.

⁸⁷ Ehrlich, 100.

⁸⁸ Laurence, *Five London Piano Makers*, 74.

⁸⁹ Ehrlich, 43.

⁹⁰ Kirckman was so slow to respond to changing technology and desires of its clients that the firm closed in 1896.

“lower class” manufacturers who had very few employees and tended to make pianos of poor quality.⁹¹ The 1881 census lists 233 piano makers operating in London. Of this number 106 firms and partnerships comprised the “first” and “second” classes of piano makers, many of which had hundreds of employees working in their factories, and 127 smaller concerns could be considered as part of the “third class” groups of makers, who sometimes employed the owner and just one assistant.⁹²

As the piano industry developed throughout the eighteenth and nineteenth centuries in London, the geographical location of the industry changed. These changes allowed the industry to move to prime locations, utilising the shifting transportation networks of the city, while optimising the balance between the cost of land and the need for space.

From the establishment of first piano companies in the 1760s until the mid-nineteenth century, the piano industry was mainly centred in London’s West End, and specifically near to Soho Square. Around 1851 companies began to look for areas in the city which had more space and lower rents. This led many manufacturers to move north to Kentish Town, Camden Town, Chalk Farm, and Islington, while others moved to Hackney and Stoke Newington. All of these locations were increasingly better connected with the expansion of the railroads and canal access.⁹³ Cheaper land was also desired so that the companies could expand factory space not only to increase production but also to accommodate a larger workforce.⁹⁴

By 1911, 133 of 136 British piano manufacturers were located in London and out of that group only nine manufacturers were south of the Thames.⁹⁵ One-third of piano manufacturers had moved to Islington, a borough to the east of St. Pancras.⁹⁶ Others

⁹¹ Erlich, 143-144.

⁹² Marie Kent, “The Piano-Industry Workforce in Mid-Victorian England: A Study of the 1881 Census.” *Royal Musical Association Research Chronicle* 46:1 (2015), 96.

⁹³ Stephen Inwood, *City of Cities: The Birth of Modern London* (London: Macmillan, 2005), 116.

⁹⁴ Erlich, 35.

⁹⁵ According to Wainwright, the reason for the concentration of piano makers north of the river was twofold: (1) piano trade was established before London had adequate bridges across the Thames, and roads to the south – and long before the development of the residential suburbs south of the river, and (2) the established firms such as Broadwood were north of the river and new companies tended to be started by former apprentices and employees of their companies within easy access of suppliers. Wainwright, *The Piano Makers*, 131.

⁹⁶ Inwood, 117.

spread to the adjoining boroughs of Camden Town and Chalk Farm to the west, and Hackney and Stoke Newington to the east.⁹⁷



Figure 3. Map of piano manufacturing locations in London in 1911. The black dot indicates Soho, the historic centre of the industry. The red dots locate centres north and east of Soho, including Stoke Newington, Islington, Camden Town, Kentish Town, Chalk Farm, and Hackney. The blue pins indicate manufacturing sites south of the Thames: Stockwell, Lewisham, and New Kent Road. *London County Council and Parliamentary Divisions*. Map. Edinburgh: John Bartholomew & Co., 1900. From *The Anglotopia Magazine*. <https://londontopia.net/guides/london-places-10-london-borough-names-fascinating-histories/> (accessed 25 August 2017).

Of Dolge's list of manufacturers of 1911, the three companies not located in London were located in Halifax, near Leeds.⁹⁸ That year was also when George Glover moved Bentley pianos from Islington to the Village of Woodchester, outside of Stroud.⁹⁹ He renamed the company Stroud Piano Company, training local labour in the craft of piano making.¹⁰⁰ Although there was potential to expand the piano industry outside of London, these companies were exceptions to the norm. Throughout the twentieth

⁹⁷ Wainwright, *The Piano Makers*, 131.

⁹⁸ Dolge does not list the names of the three manufacturers, but Pohlmann & Sons, a company founded in 1823, would be one of the manufacturers. The company's founder, Henry Pohlmann, is thought to be related to Johannes Pohlmann, one of the first makers of pianos in London. The firm stopped making pianos in the 1930s. National Archives, "Pohlmann and Sons, Piano Manufacturers, etc." Reference WYC1118, accessed 13 August 2017.

<http://discovery.nationalarchives.gov.uk/details/r/d9553d88-b2d0-4a01-9d1d-ac4eee7f3ec8>

⁹⁹ Oliver, 277.

¹⁰⁰ Wainwright, *The Piano Makers*, 136.

century, and during the study period of this thesis, the piano industry continued to be overwhelmingly located in London.¹⁰¹



Figure 4. Distribution of industry including firms located outside of London in 1911. Excerpt from *The Royal Atlas Of Modern Geography Exhibiting, In A Series Of Entirely Original And Authentic Maps, The Present Condition Of Geographical Discovery And Research In The Several Countries, Empires, And States Of The World By The Late Alexander Keith Johnston ... With Additions And Corrections To The Present Date By T.B. Johnston ... With A Special Index To Each Map. A New Edition*. Map. Edinburgh and London: W. & A.K. Johnston, 1912. From Stanford University, *David Rumsey Historical Map Collection*. <http://www.davidrumsey.com/> Stanford University Library (accessed 25 August 2017).

¹⁰¹ As will be discussed in Chapter 4, only two piano manufacturers were located outside of London for the study period of this thesis.

The British Piano Industry at the Turn of the Twentieth Century

Before the start of the First World War, the British piano industry was reasonably prosperous. In the decade before the war, British piano exports had doubled,¹⁰² domestic sales were steady, and a renaissance of the British piano seemed just on the horizon. The British piano, which largely took the form of an upright piano, appealed to the middle and lower classes and the industry was mainly producing instruments for this market. But, not all was well as a large trade imbalance continued to plague the industry. For example, just prior to the beginning of the First World War 24,500 pianos had been imported into Britain – a total of around 20% of the domestic market – and at this time it was estimated that one out of every six pianos purchased in England was a German piano.¹⁰³ In addition to the competition faced from German and American imports, the industry as a whole continued to rely heavily on piano parts, such as actions and wrest pins, which were imported from Europe.¹⁰⁴ Adding to this was competition within the trade itself as price cutting wars between retailers continually lowered the profit margin on wholesale pianos and strained the relationship between makers and dealers.¹⁰⁵

Even with these obstacles, in general, piano companies had a positive attitude towards the immediate future. Although the trade faced competition, companies such as Chappell had increased piano production by a third and their production of grand pianos increase six-fold in the pre-war years.¹⁰⁶ If the 1910s continued in this positive trend, then the British industry was well placed to continue to be a significant player on the domestic and international piano market.

Unfortunately, the upward trend in British piano manufacturing would be short lived. The First World War would put an end to the rise in exports, prevent British manufacturers from importing crucial pianos parts, force many piano manufacturers

¹⁰² Wainwright, *The Piano Makers*, 138.

¹⁰³ Erhlich, 88.

¹⁰⁴ Ibid, 158.

¹⁰⁵ The competition between the department stores was one of the factors that led to the founding of the Music Trades Association in 1913. Wainwright, *The Piano Makers*, 138.

¹⁰⁶ A portion of Chappell's success in its selling of grand pianos was due to the company's introduction of a "short grand," an instrument that measured only 4' 9". This instrument demonstrated the popularity of smaller grand pianos, especially instruments that would eventually be known as "baby grands" whose small size appealed to customers who wanted to boast that they owned a grand piano but in actuality did not have the space or the financial means to buy one. Ibid.

to either severely limit piano production, convert to war production, or close their factories. Overall it was a trying time for the industry and the First World War was a test run for Government policies that would return during the Second World War.

World War I: the First Mobilised British Economy

At the outbreak of the war, the situation in Europe did not immediately impact upon the piano industry. Initially, the British Government believed that the war would be over quickly and few restrictions were placed on domestic production. Once the Government realised that the war would not be won in a few months, there was a period in which restrictions began to be placed on production. This was done in an *ad hoc* basis as the Government was hesitant to place restrictions on the economy because it was believed at the time that these restrictions would weaken Britain's economic position, which was to be avoided.¹⁰⁷ By 1916, the Government realised that in order to meet the enormous demand on materials caused by a vast military force, Britain needed to impose unprecedented controls over the economy in order to mobilise resources for the war effort. These controls marked the first time in which Britain fully mobilised its economy¹⁰⁸ and the controls put strict restrictions on piano production. Although piano production was restricted, it was never fully stopped during the First World War. The situation during the Second World War would be vastly different.

The Great War had both positive and negative impacts on the piano industry. Although piano manufacturing was greatly restricted after 1916, many piano firms were able to switch to war production and learned new techniques and skills through this work. Companies who did not find war contracts either eked out a meagre existence on repair work or piano sales, or closed down. In general, the First World War culled weaker piano manufacturers and by its end many of the small-scale piano producers had gone out of business.¹⁰⁹ A terrible impact of the war on piano manufacturing was the great loss of the many skilled men who joined the war effort and never returned.

¹⁰⁷ Arthur Marwick, "Problems and Consequences of Organizing Society for Total War" in *Mobilization for Total War: The Canadian, American and British Experience 1914-1918, 1939-1945* (Waterloo: Wilfrid Laurier University Press, 1981), 13.

¹⁰⁸ Jeremy Noakes, ed., *The Civilian in War: The Home Front in Europe, Japan, and the USA in World War II* (Exeter: University of Exeter Press, 1992), 1.

¹⁰⁹ Wainwright, *The Piano Makers*, 141.

Piano manufacturers employed a large workforce of mainly skilled carpenters and during the war many companies were able to find contracts to build wooden components for the war effort. This included companies such as The Brasted Brothers, who made biplanes used by the Royal Flying Corps,¹¹⁰ and Broadwood and Sons, who made everything from tool and ammunition boxes to a variety of aircraft parts for companies such as Airco, De Havilland, Rolls Royce, Royal Aircraft Factory, and Hendon Aircraft Factory.¹¹¹ The aircraft industry relied heavily on piano manufacturers to produce component parts as the airplanes of the day were mainly wood-bodied. The piano makers' skills could easily adapt to the manufacturing techniques needed to make these parts and the piano firms were able to supply much needed labour and factory space.¹¹²

Some of the piano companies that switched to aircraft production during the First World War benefitted from the experience. The benefits of the war were mainly due to the need for the firms to adjust to rapid production in order to meet manufacturing schedules. In order to do so, piano companies integrated standardised parts, adopted new management structures, reorganised factories, and used new techniques and machinery.¹¹³

Negative impacts of the war on the piano industry largely revolved around the lack of supplies and the loss of labour due to enlistment and casualties. When war was declared on 4 August 1914, trade ceased with Germany. That meant that piano manufacturers were not able to import actions, wrest pins, wire, and other supplies. British firms were able to purchase actions from Herrburger in Paris and wrest pins and other piano components made of metal from companies in the United States, but as the war continued, importing these supplies became increasingly difficult. This led

¹¹⁰ Ibid, 140.

¹¹¹ Wainwright, *Broadwood by Appointment*, 279–283.

¹¹² In addition to people already employed in the piano industry, piano companies hired in workers to complete these contracts. Much like the Second World War, many of these workers were women who filled in the role of men who had enlisted in the military. Noelle Whiteside, "Welfare Legislation and the Unions during the First World War," *The Historical Journal* (December 1983): 863.

¹¹³ Erhlich, 175.

some companies, such as Broadwood and Sons, to begin manufacturing their own actions in 1915.¹¹⁴

As the war continued many materials became scarce and those that were available were significantly more expensive. For example, in December 1915, the Government commandeered the entire supply of methylated spirits, a crucial component for French polishing. When the material was once again available for civilian purchase the price has risen from 2s 3p per gallon to 4s per gallon. Similar price increases affected the price of timber and even glue.¹¹⁵ In the final years of the war the British Government implemented material rationing and completely banned the use of some materials in civilian manufacturing.¹¹⁶ The lack of materials made piano manufacturing difficult and production numbers were greatly reduced, but at no point did the British Government ban the manufacturing of pianos. If companies had materials available, they could continue to produce instruments.

In regard to labour, piano manufacturers, like all aspects of Britain's manufacturing sectors, were heavily affected by their workforce joining the war effort, particularly by young men joining the military. These men were temporarily replaced by female workers, but unlike in the future world war, the increase of the female workforce in British factories only amounted to a 25% overall rise.¹¹⁷

The Chappell Piano Company serves as stark example of the sacrifice that many companies and their employees made during the war period. It is estimated that of the roughly 130 employees of Chappell working at the firm at the start of the First World War, 61 employees joined the military. By the end of the war 38 of these men had died,¹¹⁸ which means the firm lost 29% of its workforce to the war. It is believed that this is indicative of much of the industry.

¹¹⁴ Imports of piano actions were banned in March 1916. Wainwright, *Broadwood by Appointment*, 277- 278.

¹¹⁵ Ibid.

¹¹⁶ For example, by 1917, all supplies of copper were diverted wholly to war purposes and steel was severely curtailed for civilian use. In October 1918 timber rationing was introduced. Wainwright, *The Piano Makers*, 141.

¹¹⁷ Kitchen, 288.

¹¹⁸ Laurence, *More London Piano Makers*, 11.

Post-War and the Inter-War Years

After the First World War ended on 11 November 1918, the British piano industry was poised to make a significant impact on the international piano market. Although the industry had mainly switched to war production and many smaller manufacturers had closed, the overall state of the piano manufacturers was strong. The companies had not suffered from war damage, and, as Britain was the victor of the war, British manufacturers should have had an advantage over their German competition. Unfortunately, shortages of materials, cost increases, and competition from new forms of entertainment prevented Britain's piano industry from capitalising on their potential advantage.

The immediate post-war years saw a continuation of raw material shortages. Companies were still heavily reliant on imported piano parts and these parts were being imported at exorbitant prices. For example, in July 1919, Herrburger sent only 72 actions from France and these actions were imported at a price of 200% above their pre-war cost.¹¹⁹ Timber prices had risen 170% and iron frames cost 100% more than they had before the war.¹²⁰ This caused the price of the post-war British piano to be more than double that of a pre-war instrument. For example, the base price for dealers between 1910-1916 for a Challen grand piano was £60. This increased to £103 in January 1918, £112 in July 1918 and to £138 by the end of 1919.¹²¹ It is worth noting that the increase in the cost of pianos coincided with an overall increase in the cost of living in Britain which was two and half times greater by 1920 than it was in 1913.¹²² Adding to the industry's difficulties was that the quality of post-war British pianos was generally considered to be substandard to their German and American competition.

The slow recovery of the post-war era was detrimental to a number of piano manufacturers. This included Brinsmead, which closed in 1920 and had its company name purchased by Cramer. The company was then relaunched in 1921 as John Brinsmead and Sons Limited. In April 1923 B. Squire and Son was bought by Kemble.

¹¹⁹ Wainwright, *Broadwood by Appointment*, 288.

¹²⁰ Erlich, 178.

¹²¹ Laurence, *Five London Piano Makers*, 37.

¹²² John Burnett, *A History of the Cost of Living* (Harmondsworth: Penguin, 1969), 306–309.

Kemble then bought Cramers, John Brinsmead, and Moore and Moore in the inter-war years. J & J Hopkinson's name and business were sold to George Rodgers and Company. Between June and August 1924, seven additional manufacturers went into liquidation.¹²³

Although the inter-war years were difficult, some companies saw opportunity. Whelpdale and Maxwell, importers of Blüthner pianos, began to investigate manufacturing their own pianos under the 'Welmar' name. They contracted with Squire and Longson to manufacture these instrument and in 1919 they had 150 Welmar uprights made. Herrburger amalgamated with Brooks of London in 1920 and began to manufacture actions in London.¹²⁴ The locally made actions were popular with the industry and by 1925 imports of foreign-made actions had almost ceased.¹²⁵ Overall, in the 1920s piano manufacture began to adopt simpler and standardised procedures for production in order to stay competitive in the post-war years. This included the first kilns being used to mature wood and dry soundboards.¹²⁶

When the war ended large numbers of civilian workers lost their war-time production jobs and found themselves unemployed. The number of unemployed swelled as demobilised soldiers returned from the continent. As unemployment increased, the British Government did little to alleviate the situation and instead relied on private industry to provide relief.¹²⁷

As piano production increased, manufacturers were able to hire additional piano makers, but as their labour returned, difficulties arose. Employees who had joined the military and those who had left piano making for war production jobs had become accustomed to higher wages.¹²⁸ In addition, many of these factory men had unionised and they were now demanding better pay and refusing piece-work rates.¹²⁹ Some piano companies negotiated with their labour force, like Brasted Brothers who agreed to

¹²³ Wainwright, *The Piano Makers*, 143-144.

¹²⁴ "Herrburger, Brooks" Grace's Guide to British Industrial Heritage, accessed 21 December 2016. http://www.gracesguide.co.uk/Herrburger,_Brooks_

¹²⁵ Erhlich, 177.

¹²⁶ Wainwright, *The Piano Makers*, 149.

¹²⁷ Whiteside, 857.

¹²⁸ Erhlich, 180.

¹²⁹ Piece-work is a system in which an employee is paid for the number of items completed during their shift rather than for the hours in which they work. Erhlich, 178.

offer year-round employment in the 1920s; the first company to offer this type of employment.¹³⁰

The rise of unions and the socialist movement was not isolated in the piano industry, but was seen throughout England. This resulted in upheavals in labour during the 1920s, eventually resulting in the General Strike of 1926.¹³¹ Although Brasted Brothers is an example of a company that acquiesced to their employees' demands, the overall relationship between piano factory owners and their employees was strained across the industry. After the 1926 strike, the management and owners of piano companies refused to acknowledge the unions, adding to the tension in the factories.¹³²

After the end of the First World War, very little was done to rectify the pre-war trade imbalance which plagued the piano industry. An import duty of 33⅓% was added onto imported goods, but there were no restrictions as to the total volume or value of goods which could be imported. The duty, which was known as the "McKenna Duties," had been in effect since 1915 and in general did little to limit imports.¹³³ As the German mark declined in value during the post-war years, German-made products, including pianos, once again flooded the market.¹³⁴

The first German-made pianos began to be imported to the U.K. in 1920. Most of the instruments were high-end pianos and sold for double the pre-war price. Unfortunately, Britain could offer little by way of competition to the high-end German pianos as few British makers were manufacturing comparable instruments, so German pianos made by companies such as Blüthner were a popular choice.¹³⁵ In addition, German piano companies had cultivated their image from one of small craftsman to that of an industrialised industry resulting in the consumer seeing the industry as

¹³⁰ The tradition was for piano makers to work August to Easter with factory labour not being paid over the summer months. Ibid, 151.

¹³¹ Wainwright, *The Piano Makers*, 146.

¹³² A. G. Tomkin to H.A.R. Binney, letter, 18 May 1943. BT 64/1786. National Archives.

¹³³ Erlich, 182.

¹³⁴ *Pianoforte Trade Bulletin* No. 26. Pianoforte Export Group. 30 July 1942. BT 64/1786. National Archives.

¹³⁵ Only Chappell and Broadwood and Sons were making similar quality instruments in England at this time but even these instruments were considered substandard compared to a German piano.

progressive.¹³⁶ By purchasing a German instrument the consumer was not only buying quality but also the idea of progress in the post-war years.

Imports were not limited to instruments coming from Germany. Since the end of the First World War, American pianos were being shipped to British soil. Additionally, in 1921 Petrof pianos were brought in from Czechoslovakia and in July 1922 Bösendorfer of Vienna were imported into Britain.¹³⁷ The British Government exacerbated the situation when it waved the McKenna duties from August 1924 until June 1925. At that time many importers ordered large numbers of foreign-made pianos which they could bring into Britain tax free.¹³⁸

Although many instruments were being imported into Britain, British piano makers were exporting instruments during this period.¹³⁹ The export of British pianos did not match the number of imported instruments and the trade imbalance continued. For example, in 1921, British piano makers exported 1,538 pianos but during that same year 9,079 pianos were imported into Britain. In 1924 British makers had more than quadrupled the number of pianos exported out of the country and had sold 6,542 pianos abroad. This number of pianos still did not match the number of instruments being imported into the U.K. as 10,797 pianos arrived from foreign makers that year.¹⁴⁰

The popularity and perception of the superior quality of foreign pianos was prevalent throughout the country. In 1928 an analysis of concert performances in Britain showed that less than 10% of concerts were performed on British pianos. If the British industry was embarrassed by this statistic they did little to improve their reputation. Rather than uniting in a joint effort to push for greater import duties or coming together to create a pro-British piano advertising campaign (or even actually improving the quality of British pianos), the leadership of the piano industry squabbled amongst themselves and reverted to rhetoric to bash German imports in their individual advertisements.¹⁴¹

¹³⁶ Petersen, 12.

¹³⁷ Laurence, *Five London Piano Makers*, 38.

¹³⁸ Erhlich, 182.

¹³⁹ British makers exported their instruments mainly to British Commonwealth countries: particularly Australia and South Africa.

¹⁴⁰ Wainwright, *The Piano Makers*, 145.

¹⁴¹ Erhlich, 182.

As the 1920s drew to a close, the British piano industry had stagnated. The companies who had survived the difficult post-war years continued to focus on producing instruments which appealed to the general population of the U.K., but overall the instruments were not perceived as high quality and British piano makers were facing considerable competition from imported instruments, especially for good concert pianos. The 1930s would be yet another turbulent decade, one which would see the impact of the Depression, the emergence of the minipiano, and the beginning of another world war.

The ripple effect of the stock market crash in the United States and the resulting Great Depression had a significant impact on piano production. During the Depression British exports fell 37% in two years and piano exports faced a similar reduction.¹⁴² Globally, at the end of the 1920s international piano production was around 500,000 instruments a year, but within two years after the beginning of the Depression, production had dropped to half.¹⁴³ The situation was bleak. Piano firms tried to maintain production and appeal to consumers who had little expendable income and less desire to purchase a piano than ever, especially with alternative sources of entertainment, such as the radio, cinema, and the gramophone available to them.¹⁴⁴

A saving grace for the industry was the introduction of a small, compact piano which could easily fit in a small home and came at a reasonable price. This piano was the “miniature piano” and it appealed to British families on a modest budget.

The miniature piano was introduced in 1934 by Brasted Brothers. The company had not invented the instrument, but instead purchased the design from C.A.V. Lundholm of Stockholm and patented the design in the U.K.¹⁴⁵ The company named the instrument the “Minipiano” and sold them under the Eavestaff name. The pianos had a compass of six octaves, a simple action mechanism, and the soundboard in the front rather than in the back. Interestingly, the tuning pins were also at the front of the

¹⁴² William C. Mallalieu, *British Reconstruction and American Policy 1945-1955* (New York: The Scarecrow Press, Inc., 1956), 9.

¹⁴³ Wainwright, *The Piano Makers*, 153.

¹⁴⁴ Memorandum B. Part 1 – General. March 1942. BT 64/1786. National Archives.

¹⁴⁵ Laurence, *More London Piano Makers*, 29.

instrument and were accessed under the keyboard.¹⁴⁶ Originally the pianos came in three designs: Ritz, Modern, and the De Luxe – complete with electric lights. Although the design of the piano was quite plain, the instruments could come in a variety of woods and colour finishes.

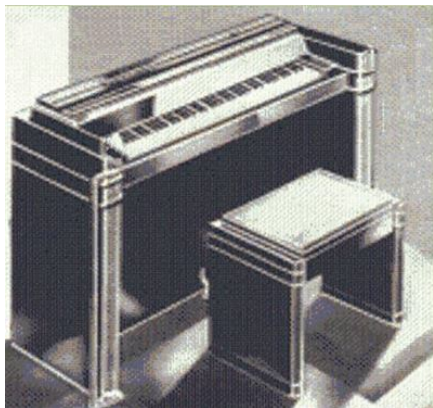


Figure 5. Brasted Brothers advertisement for the "Minipiano" Modern model, circa 1934. Image courtesy of Piano History Info. <http://www.pianohistory.info/edwardian.html>



Figure 6. 1934 Brasted Brothers "Minipiano" Modern model. Image courtesy of Christies.com. <http://www.christies.com/lotfinder/Lot/an-eavestaff-black-lacquered-upright-mini-piano-5377009-details.aspx>

The pianos became incredibly popular, especially since they cost half the price of a regular upright piano, and in the first year Brasted sold 7,000 instruments at 28-38 guineas apiece. The popularity of the instruments led other makers to copy the miniature format. This included the Ministrelle piano by Barratt and Robinson and the Minx piano by Kemble, both introduced in 1935.¹⁴⁷ Overall the miniature piano became the dominant design of British pianos and it helped to revitalise the industry in the mid-1930s.

A good indication of the improvement in the health of the piano industry in the mid-1930s is through examining export numbers. Between 1935-1937, British piano exports increased, as can be seen on the table below. This number then begins to decline as the rise to power of the Nazi party in Germany causes uncertainty in the political climate of Europe.

¹⁴⁶ The instruments were strung with a bichord tuning meaning that for every note there were two strings.

¹⁴⁷ Wainwright, *The Piano Makers*, 156-157.

	Quantities					Value				
	1935	1936	1937	1938	1939	1935	1936	1937	1938	1939
<u>Pianos – not automatic – complete</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	£	£	£	£	£
Eire	656	638	695	652	655	14,187	12,129	13,669	12,320	12,275
Union of South Africa and South-west Africa Territory	599	667	747	705	719	19,389	21,667	26,638	25,581	25,998
Australia	399	421	679	615	626	15,486	18,607	28,988	22,489	23,582
New Zealand	260	646	747	823	497	9,070	19,606	23,594	24,142	13,880
Other British Countries	431	372	364	302	239	14,481	12,998	13,035	10,462	8,934
Total to British Countries	2345	2744	3232	3097	2736	72,613	85,007	105,924	94,994	84,669
Netherlands	362	228	174	182	302	9,039	5,430	4,510	5,445	9,388
Other Foreign Countries	163	183	193	184	198	6,992	7,359	6,738	6,932	6,916
Total to Foreign Countries	525	411	367	366	500	16,031	12,789	11,248	12,377	16,304
Total export	2,870	3,155	3,966	3,463	3,236	£88,644	£97,796	£117,172	£107,371	£100,973

Table 2. Piano production totals 1935-1939. Compiled by the author from “Extract from Volume II of the Annual Statement of Trade of the United Kingdom with British Countries and Foreign Countries.” BT 64/1786. National Archives.

By the end of the 1930s the British piano industry had gone through many obstacles over its circa 150-year history. The rise of the industry had been impressive as it grew from a small cottage industry of the late eighteenth century to the largest piano manufacturer in the world in the mid-1800s. London was the central location of the trade with its easy access to supplies and connection to shipping. As the piano industry grew, auxiliary industries developed and these companies all relied on supply and demand to produce instruments for both the domestic and global markets. The downfall of British piano companies started with the industry's failure to incorporate new technology, adapt to changing markets, and to modernise in order to maintain its competitive edge over German and American imports. Additionally, as the twentieth century progressed, external forces, such as a global war and economic depression, helped to downsize the British industry and by 1938 only around 40 companies remained. According to the Pianoforte Manufacturers Association, Ltd., 38 of these companies were located in London; one manufacturer was located in Stroud, Gloucester; the other in Nottingham.¹⁴⁸ Many of these manufacturers had survived extremely difficult times during the First World War, while others were optimistically started in the inter-war period.

As the situation in Europe again progressed towards war, the British piano industry would once again be called upon to provide materials and factory space for the war effort. Unlike in the First World War, the Government had planned the mobilisation of the British economy well in advance and once war was declared piano manufacturers would immediately feel its effects, ultimately resulting in the complete closure of all piano making. The closure of the industry, as well as the limitations placed on piano manufacturing in the post-war era, would permanently damage the British piano industry.

¹⁴⁸ See Appendix 3 for complete list. Stroud Piano Company was founded in Stroud in 1911. Supertone Pianos is listed as located in Nottingham but little information has been found regarding the founding of the company. List of Members of the Pianoforte Manufacturers Association, Ltd. 1941. BT 64/1786. National Archives.

Chapter 2: Mobilisation for War

The Second World War was the second conflict in the twentieth century in which the United Kingdom completely mobilised its economy. This mobilisation affected all aspects of life within Britain and the monumental scale justifies the use of the term “total war” in referring to the British war effort. Jill Stephenson defines the term thus: “in a total war, where the very survival of a nation was at stake, the totality of the population had to be involved in its defence, in however small a way.”¹⁴⁹ Based on this criterion, there is little doubt that Britain was fighting a total war. But, how did the British Government organise the war effort and how did it persuade or force manufacturers to change from civilian production to war production?

To say that the organisation of the British war economy went smoothly would be a misconception. Mobilising the economy was a difficult process and many industrialists and manufacturers fought Government regulations. But, the need to harness the power of British industry in order to defend the country and eventually fight abroad became paramount. This resulted in possibly a greater degree of compulsory mobilisation of the British people and economy than in any other combatant power aside from the Soviet Union.¹⁵⁰

Interestingly, Britain was well situated for the mobilisation effort. Its population was mainly centred in cities with 70% of the British people living in large urban centres.¹⁵¹ At the time London was the largest city in the world, with greater London boasting 8.2 million inhabitants – one-fifth of the entire population of the U.K. London was also an important manufacturing centre and its port handled more tonnage than any other port

¹⁴⁹ Jill Stephenson, “The Home Front in ‘Total War:’ Women in Germany and Britain in the Second World War,” in *A World at Total War: Global Conflict and the Politics of Destruction, 1937-1945*, edited by Roger Chickering, Stig Förster, and Bernd Greiner (Cambridge: Cambridge University Press, 2005), 210.

¹⁵⁰ The common belief that Britain was the most mobilised country during the war was questioned in Richard Overy’s introduction to the 2007 reprint of *What Britain Has Done*, a publication first printed by the Ministry of Information in 1945. The original edition of the book makes assertions to the effect that Britain’s population was the most mobilised and controlled of all of the powers in the war, but Overy argues that this is misleading as both Germany and the Soviet Union imposed higher sacrifices and mobilised more ruthlessly. He uses this original publication as a source for the misinformation as statistics from Germany and the Soviet Union were not available to the British public at the time of publication. Richard Overy, *What Britain Has Done: 1939-1945* (London: Ministry of Information, 1945; reprint London: Atlantic Book, 2007), xi.

¹⁵¹ Kitchen, 91.

in the world.¹⁵² The United Kingdom had a network of colonies, protectorates, and Dominions that stretched around one-third of the globe,¹⁵³ controlled large areas of land in Asia and Africa, influenced much of the world's trading, and directly or indirectly financed more than half of the world's international trade through London.¹⁵⁴ These factors enabled Great Britain to harness the full power of its industrial machine, focusing the available labour in urban centres on war production, and relying on its international networks to control as much raw material as possible to supply the war effort.

Beginning of Mobilisation

Following the end of the First World War, Britain had allowed her military to dwindle to a defence force, with most of its resources focused on the navy. During this time the country's policy was to follow the "Ten Year Rule," an idea that if a war was not foreseeable in the next ten years, then no rearmament would take place.¹⁵⁵ The belief in a long-lasting peace in Europe began to falter with rising tensions brought on by the rise of the Nazi party in Germany. Although wary of this political party, Britain initially saw a strong Germany as a valuable bulwark against the spread of Russian communism.¹⁵⁶ When the Nazi party took an unprecedented 230 seats in the Reichstag in 1932, the outlook towards the party changed and the "Ten Year Rule" was revoked. By 1934 the first armament expansion programme began to be discussed.¹⁵⁷

Although discussions had begun, Britain did not race to begin any extensive rearmament programme. The country was still recovering from the Depression and the financial burden of rearming the nation was thought to be potentially ruinous for the economy.¹⁵⁸ It took until 1937 for the rearmament of Britain to slowly and quietly begin. Much of this was due to reports regarding the amount Germany was spending

¹⁵² Philip Ziegler, *London at War 1939-1945*, (London: Random House, 2002), 4.

¹⁵³ Overy, xiii.

¹⁵⁴ Ziegler, 5.

¹⁵⁵ Postan, 9.

¹⁵⁶ Pelling, 19.

¹⁵⁷ Postan, 9.

¹⁵⁸ Ibid, 13.

on defence and on the rate of German aircraft production, which far exceeded that in Britain.¹⁵⁹ This set in motion Britain's rearmament programme. The programme initially focused on anti-aircraft defence at home as the Government saw no need to plan for the production of heavy tanks or other major items of equipment as the strategy of the time was one based on defence rather than on ground offences or an invasion force.¹⁶⁰

The covert building of Britain's defences continued during most of 1938, but the country lagged behind the military spending of Germany. During 1938 Germany spent 16% of its national product on defence whereas Britain spent only 7.9%.¹⁶¹ Although fearful of Germany's growing military advantage, Britain's overall policy was one of appeasement rather than confrontation.¹⁶² The continued policy of concession is evident with the Munich Agreement of 29 September 1938.¹⁶³

The crisis surrounding the Munich Agreement awakened England's need to prepare for a possible war with Germany.¹⁶⁴ One indicator of the seemingly sudden need for war readiness was when 90% of the inhabitants of London were equipped with a gas mask within a few days of the signing of the Munich Agreement.¹⁶⁵ After Germany invaded Czechoslovakia in March 1939, it became clear that the appeasement strategy was a failure and the policy was abandoned.¹⁶⁶ The inevitability of war became the

¹⁵⁹ According to a report issued by Mr. A.J.P. Taylor, German expenditure on defence in 1936 was running at over £400 million, while the British estimate for the year 1936-1937 totalled less than half this sum. German aircraft production far exceeded Britain. Pelling, 20.

¹⁶⁰ Ibid, 22.

¹⁶¹ Ibid, 27.

¹⁶² Ibid, 23.

¹⁶³ The agreement, signed on 30 September but dated 29 September, permitted the annexation of sections of Czechoslovakia by Nazi Germany in order to prevent Germany from invading the country and starting a war. Although hailed at the time and called by Neville Chamberlain a "peace with honour, a peace for our time," the Munich Agreement is now considered a dishonourable agreement in which France and England abandoned their Czechoslovakian ally and allowed Germany to claim territory which had vital industrial power and strategic positions in regard to future offences, particularly around Poland. Gerhard L. Weinberg, William R. Rock, and Anna M. Ciencela. "Essay and Reflection: The Munich Crisis Revisited" *The International History Review*, (November 1989), 672.

¹⁶⁴ Ziegler, 13.

¹⁶⁵ Ibid, 17.

¹⁶⁶ The invasion of Czechoslovakia showed the failure of the Munich Agreement. The area invaded by Germany was not German-speaking or ethnically German and this went against what Hitler had said were his reasons for the annexation of the Sudeteland in the previous year. Another reason for the abandonment of appeasement policies was the revelation of the "Pact of Steel" between Germany and Italy, which was an alliance between the countries and agreement to help each other in times of war.

reality and it was decided to double the size of the Territorial Army and to introduce conscription.¹⁶⁷ Although war was not declared until 3 September 1939, the period of relative peace following the Munich Agreement allowed Britain to plan for the mobilisation of the British economy.¹⁶⁸

When Britain declared war on 3 September 1939 it was on behalf of the United Kingdom of Great Britain and Northern Ireland and on the behalf of India, Burma and the colonies. The Dominions of the Crown – Canada, Australia, New Zealand, South Africa, and Ireland – were free to choose if they were going to declare war.¹⁶⁹ Even after the declaration of war, the immediacy of the conflict was not apparent as following the declaration of war, the “Phoney War” began and rearmament and mobilisation continued to move slowly.¹⁷⁰

Throughout the war the organisation of the mobilisation effort was controlled by a number of different cabinet positions. In order to understand how mobilisation and the subsequent laws and restrictions affected the piano industry, it is important to summarise the organisation of the government war machine.

Overview of the Government War Machine and Structure

Two weaknesses in the mobilisation of the First World War hindered the transition to a war-time economy: lack of labour and lack of supplies. In order to prevent the same weaknesses in a future war the Man Power Committee and the Principal Supply Officers’ Committee (P.S.O.C) were formed in the inter-war years.¹⁷¹ Although the two committees would be superseded by other organisations by the outbreak of the Second World War, these committees were integral to the planning process for mobilisation.

¹⁶⁷ Pelling, 29.

¹⁶⁸ Ibid, 27.

¹⁶⁹ All of the Dominions, except Ireland, decided to join the war in September 1939. South Africa declared war on 6 September, Canada on 10 September and New Zealand and Australia agreed that they didn’t need to declare their own war because they were included in Britain’s declaration. Ibid, 38-41.

¹⁷⁰ The “Phoney War” was the period from September 1939 to April 1940 when very little happened on the Western Front. No major military offences took place either in the U.K. or in Germany.

¹⁷¹ Maurice Hankey, *Government Control in War*, (London: Cambridge University Press, 1945), 52.

The P.S.O.C. was formed in May 1924 under the Master of the Ordinance and was absorbed into the Board of Trade in April 1927.¹⁷² The committee was charged with economic and industrial planning and “to direct peacetime investigations in respect of all matters connected with supply in war.”¹⁷³ The committee had four functions:

1. ascertain and maintain a watch upon the national stocks of raw materials;
2. prepare a schedule of what would be required in war;
3. plan for increasing supplies in an emergency;
4. maintain a list of suppliers and prepare, if necessary, for national production.¹⁷⁴

Two subcommittees assisted the P.S.O.C. in their tasks. They were the Board of Trade Supply Organisation, which looked after raw materials and important commodities,¹⁷⁵ and the Supply Board, a subcommittee in charge of planning for production of war-stores.¹⁷⁶ The P.S.O.C. functioned largely through sub-committees whose work was co-ordinated by the Supply Board. The Supply Board’s importance would expand throughout the war as it decided what materials would have to be controlled at the outset of war and allocate between services the productive capacity in the country.¹⁷⁷ The Supply Board was also responsible for collating the estimates of the quantities and types of supply actually required; examining the capacity of industry to supply these requirements; and supervising the preliminary measure for industrial mobilisation for war.¹⁷⁸

The P.S.O.C. met annually and mainly discussed policy issues.¹⁷⁹ An important contribution to the war effort by this committee was the preparation of the supply arrangements for which the Ministry of Supply became responsible before the outbreak of war in September 1939.¹⁸⁰

¹⁷² National Archives, “Committee of Imperial Defence, Principal Supply Officers Committee: Minutes and Memoranda (PSOC Series)” Reference CAB 60, accessed 02 February 2015. <http://discovery.nationalarchives.gov.uk/details/r/C3867>

¹⁷³ Weeks, 81-82.

¹⁷⁴ Ibid.

¹⁷⁵ Postan, 35.

¹⁷⁶ The Supply Board would become the Ministry of Supply.

¹⁷⁷ Ibid, 35.

¹⁷⁸ Weeks, 82.

¹⁷⁹ Ibid.

¹⁸⁰ Hankey, 53.

The Man Power Committee was established to prepare for the needs of labour. The organisation was charged with estimating the numbers of workmen that would be needed for war production. This organisation became part of the Ministry of Labour and National Service in 1939. Additionally, the Minister for Co-ordination of Defence was established in February 1936 and was in charge of all aspects of rearmament, including those of war-production potential.¹⁸¹

From 1936 to 1938, the planning for war production was carried out by various ministries and committees instead of from one central office. To mitigate the difficulty of organising the entire economy by multiple smaller organisations, the Director of Planning of War Production (D.P.W.P) was established at the end of 1938.¹⁸² Although this office did begin to crystallise a plan for war production and rearmament, the needs of war did not yet dominate the life of the nation, and economic resources were not yet fully mobilised.¹⁸³

Just prior to the declaration of war, The Emergency Powers (Defence) Act of 1939 was passed.¹⁸⁴ The Act gave the Government unprecedented powers, in effect “complete control over persons and property, not just some persons of some particular class of the community, but of all persons and all property.”¹⁸⁵ The legislation was considered necessary in order for the Government to be able to successfully fight the impending war. The Emergency Powers (Defence) Act massively increased the powers of the state in wartime over individuals, companies and whole industries.¹⁸⁶ It allowed the Government to arrest anybody who went against regulations, detain anybody deemed to be a threat, take over any property needed by the Government for the war effort, enter and search any property, and change any existing law if it was

¹⁸¹ Postan, 35-36.

¹⁸² Ibid, 67.

¹⁸³ Ibid, 53.

¹⁸⁴ The Act was passed in August 1939. It would be approved annually until it was repealed in March 1959.

¹⁸⁵ C. R. Attlee, Lord Privy Seal, on introducing the Bill in the Commons, 22nd June 1940. A. J. Robertson, “Lord Beaverbrook and the Supply of Aircraft, 1940-1941,” *Business, Banking and Urban History* (Edinburgh: John Donal Publishers Ltd, 1982), 98.

¹⁸⁶ Ibid, 83.

necessary for the war effort.¹⁸⁷ The legislation was the cornerstone for the government's power over the economy and its citizens during the war period.

With war looming on the horizon, a War Cabinet was set up by Chamberlain's Government. Within the cabinet the administrative machinery of war production was one of the earliest to appear in the form of various ministries. The first was the Ministry of Supply in August of 1939, which was in charge of coordinating the supply of equipment to the British armed forces. This was shortly followed by the Ministry of Labour and National Service, charged with ensuring manpower and consequently supplies of labour for the war industry.¹⁸⁸ Over the war, and during the change in government brought on by Winston Churchill's administration, the war cabinet would be expanded and the existing ministries were joined by the Ministries of Aircraft Production, Home Security, Shipping, Food, Economic Warfare, and Information. The new ministries reflected the changes in priorities of the war economy, particularly the Ministry of Food, which was charged with ensuring enough food to the people of Britain while simultaneously rationing its supply.¹⁸⁹

Through the War Cabinet and its various ministries, Britain mobilised her resources for war in four main ways:

- 1) by increasing the total volume of production,
- 2) by reducing civilian consumption,
- 3) by drawing on capital at home,
- 4) by drawing on capital abroad.¹⁹⁰

During the war, the War Cabinet discussed strategic issues while the ministries saw that production priorities were met by restricting civilian production through limiting material availability, rationing, and moving labour to war production factories. But, at the beginning of the war priorities were not always clear and according to Henry Pelling "at first there was too little distinction between goods which were genuinely

¹⁸⁷ W. Ivor Jennings, "The Emergency Powers (Defence) (No. 2) Act," *Modern Law Review* (October 1940), 134.

¹⁸⁸ Postan, 79.

¹⁸⁹ Stephen Broadberry and Peter Howlett, "Blood, Sweat, and Tears: British Mobilisation for World War II," in *A World at Total War: Global Conflict and the Politics of Destruction, 1939-1945* (Cambridge: Cambridge University Press), 169.

¹⁹⁰ Overy, 119.

essential, such as saucepans, and those for which the demand was less immediate, such as pianos.”¹⁹¹

Government Controls and Rationing

Overall, the British Government controlled the conversion process from a peace-time economy to war economy through direct control and rationing. Direct control applied to labour, raw materials, industrial capacity, import and exports, as well as to the amount and type of goods that could be manufactured and supplied. Rationing limited the amount and quality of goods civilians could buy. These methods were used to encourage manufacturers to switch to war production, reduce civilian consumption, and direct materials to the war effort.¹⁹²

Initially, many manufacturers began to switch to war production from a sense of patriotic duty, but the main practical inducement was taxes on profits which culminated in the Excess Profits Tax of 100% in 1940.¹⁹³ The tax was an attempt to stop wartime profiteering by firms, and it taxed profits in excess of peacetime levels.¹⁹⁴ The Government then continued to push manufacturers to convert to the war effort through its control of raw materials and limitations of production.

The control of materials was not uniformly organised at the start of the war. At that time materials were grouped into three categories for control. The first was that of essential commodities, which included iron and steel, some non-ferrous metals, wool, leather, timber, hemp, flax, jute, paper, and aluminium and these materials were quickly put under control. The second group was subject to voluntary control through trade associations and included rubber, mica, asbestos, and silk. The third group, which included plastics and some non-ferrous metals, was left uncontrolled. Throughout the war materials could be moved from one group to another as needs demanded.¹⁹⁵

¹⁹¹ Pelling, 114.

¹⁹² Overy, 119.

¹⁹³ Postan, 88.

¹⁹⁴ Broadberry and Howlett, 164.

¹⁹⁵ Postan, 90-91.

The three-tiered system of material regulation was deemed too disorderly by the spring of 1940 as too many industries were taking advantage of the voluntary controls. It was then decided that raw materials would be controlled by a series of allocations and industries would receive their allocation based on need.¹⁹⁶ To enforce this, the Government took control over all materials and distributed them as it deemed necessary. The allocation of supplies became the most important way the government controlled materials.¹⁹⁷

Rationing was another powerful tool used by the Government to control materials and consumer consumption. To better understand how to utilise rationing, the Registrar-General supervised the registration of the entire population on 29 September 1939. This was done for the purpose of registering able-bodied men for national service and to understand the needs of the population for goods rationing.¹⁹⁸ Rationing began immediately: first with petrol by the end of September 1939. Food rationing began on 8 January 1940 with the introduction of rationing of butter, bacon, and sugar.¹⁹⁹ Other consumables that would be rationed included clothing and soap.

As the war continued, the controls placed on manufacturing and the rationing used to inhibit civilian consumption helped Britain to switch from a peace-time economy to a war-time economy. To ensure the structure of the war economy, and to aid in the direction of mobilisation and the war effort, Churchill appointed a Minister of Production in 1942.²⁰⁰ This solidified the hierarchy of the war economy with the Minister of Production in charge of directing the overall plan of production while the various ministries ensured that the production quotas were met.

The Need of Labour

As the economy transitioned to mobilisation the need for labour became paramount. Luckily for the Government, prior to the beginning of the war the British economy had

¹⁹⁶ Ibid, 93.

¹⁹⁷ Pelling, 167.

¹⁹⁸ Ibid, 56.

¹⁹⁹ Stephenson, 222.

²⁰⁰ This was done after Franklin Roosevelt established the War Production Board in the U.S.A. Pelling, 145.

been operating below maximum capacity and there was a willing pool of 1.5 million unemployed people looking for work. Although these people took time to train, they filled the initial gaps created by the first steps of conversion to war production.²⁰¹ But, as the British war economy continued to develop, labour needs continued, which led to the conscription of not only soldiers, but men and women to work in essential war production jobs.

Under the National Service (Armed Forces) Act 1939, the Ministry of Labour joined with the Ministry of National Service and was renamed the Ministry of Labour and National Service. The combined ministry was in charge of preventing manpower problems and consequently the supplies of labour for the war industry. This responsibility led the ministry to become a linchpin in the administration of war production.²⁰² The importance of manpower in the war effort was so imperative that when Churchill became Prime Minister, his war cabinet included the Minister of Labour and National Service, alongside the Minister of Supply, Minister for Economic Warfare, and Minister of Aircraft Production.²⁰³ As the need for labour became paramount, the Government gave the Ministry of Labour and National Service extended powers, including the Emergency Powers (Defence) Act of 1940, which endowed the Minister of Labour with the power to conscript labour. The Act required skilled workers to register so that they could be directed to necessary war production factories. It also created a “Schedule of Reserved Occupations,” which exempted skilled men from being called-up into the armed forces if they were employed to undertake “essential work.”²⁰⁴

As the British war economy developed, the opportunities for workers to find better positions with higher wages created a mobile workforce. Factory workers with essential skills were sought after, putting these labourers in the position to choose the work which paid the most money.²⁰⁵ As an example, it was estimated that the number

²⁰¹ Postan, 10.

²⁰² Ibid, 79.

²⁰³ The first Minister of Labour and National Service was Ernest Bevin, who was appointed on 3 October 1940. Pelling, 78.

²⁰⁴ Pelling, 112.

²⁰⁵ The average salary of the workforce rose during the course of the war. Skilled workmen (and women) were able to find work with higher wages and there was considerably less loyalty to employment as many of the workforce were not actually employed by their initial employers but by subcontracted companies or alternative employers. Andrew Thorpe, “Britain,” in *The Civilian in War*:

of workers in the motor vehicle, aircraft, and general engineering industries employed on work for the home and export market fell from 252,000 to 152,000 during June 1940 to September 1941 as workers left the industry to work in the higher paying munitions industry.²⁰⁶

In order to stop the movement of labour between factories and in order to direct labour to particularly essential industries, the Essential Works Orders were introduced in February 1941. This order was an amendment to a May 1940 law which enabled the Ministry of Labour to “direct any person to perform any task which s/he is capable of.” The Essential Works Orders made it so that an employer could not fire workers, except for extreme misconduct, and employees were not allowed to quit without the agreement of the National Service Officer – all of which was designed to reduce labour turnover.²⁰⁷

Eventually the need for labour grew so great that in March 1941 the Government decided to mobilise women with the Registration for Employment Order, which required workers not covered by the National Service Act to register for civilian employment. This Act mainly affected women and men over the combatant age of 41 who were unemployed or in part-time work. By the early summer of 1941 it was seen that the number of women mobilised was too small and the age limitations were expanded. Although this increased the number of women engaged in war work, it was estimated that the number of women transferred to war work or to vital civilian industries between April and November 1941 was less than 200,000. In order to increase the number of working women, the National Service (No. 2) Act went into effect in December 1941. This Act conscripted unmarried women and childless widows aged 20 to 30 years old, with most of the women conscripted working in munitions factories.²⁰⁸ In 1942, the age range for conscription of women was extended to women aged 19 to 40 with the Employment of Women (Control of Engagement) Order of 1942.²⁰⁹ Overall, women who had not previously been employed, or had been

The Home Front in Europe, Japan, and the USA in World War II, ed. Jeremy Noakes (Exeter: University of Exeter Press, 1992), 28.

²⁰⁶ Postan, 150.

²⁰⁷ Gazeley, 655.

²⁰⁸ Ibid.

²⁰⁹ Penny Summerfield, *Women Workers in the Second World War: Production and Patriarchy in Conflict* (London: Routledge, 1984), 35.

housewives, formed 80% of the additional half million extra people who came into the work force between 1939 and 1943.²¹⁰

By 1942 Britain was considered fully mobilised and all available resources were being used for the war effort.²¹¹ Factories throughout the country had been either built or converted for war production and those not engaged in war production were making items marked as essential for civilian life.²¹² By 1943 the working population of Britain was evenly divided between those serving in the armed forces, working in war production factories, or working in industries deemed otherwise essential. Of this population about one million men and women over the age of 65 were in paid employment.²¹³ The all-encompassing nature of the war effort would remain over the next two years as controls, restrictions, rationing, and limitations continued. The piano industry was greatly affected by mobilisation during the war years. In particular, the restrictions placed on the raw materials needed to make pianos made manufacturing increasingly difficult.

²¹⁰ Noakes, 3.

²¹¹ Pelling, 190.

²¹² Postan, 206.

²¹³ Pelling, 187.

Chapter 3: The Restricted Materials Used in Piano Production

Pianos are complicated mechanisms containing a large number of individual parts. The materials used to make these parts are varied, and include but are not limited to a number of species of wood, different metals, and wool. The size of a piano, even a small “mini” piano, is substantial and requires large amounts of timber and iron. The materials needed for the construction of pianos were the same materials that were critical for the war effort. According to the Board of Trade, four materials were of the utmost importance: timber, steel, iron, and wool, but almost all of the materials used in piano construction would come under restrictions and regulation during the war years. The need for these materials was one of the driving forces behind the Government’s restrictions on piano building and eventual shut down of the industry.

According to a report sent to the War Production Board of the United States, on average, each piano contained:

Lumber	198.4 ft.
Veneer and cross banding	186 sq. ft.
Packing lumber	24 board ft.
Packing plywood	87 sq. ft.
Brass	3.6 lbs
Cast iron	150.0 lbs
Copper wire	5.3 lbs
Lead	1.0 lbs
Steel	35.8 lbs
Lacquer	2.03 gallons
Finishing filler	0.25 gallons
Shellac	0.21 gallons
Stain	0.30 gallons
Celluloid	0.58 lbs
Felt	2.10 lbs
Glue	7.40 lbs
Pumice stone	0.50 lbs
Sandpaper	1.00 quire ²¹⁴

Table 3. Materials used in piano production from the National Piano Manufacturers Association, "The Piano Industry," report sent to the War Production Board, 1941. PG 179, 585.6205. National Archives, USA.²¹⁵

²¹⁴ A quire is a measurement of paper consisting of 24-25 sheets.

²¹⁵ Although this information comes from a report from the National Piano Manufacturers Association some of the figures seem inflated, particularly the total of veneer and cross banding used in piano production and the lacquer.

In order to understand the importance of these materials to both the piano industry and the war effort, a more detailed investigation of the restricted materials and a comparison of their use in piano production and in war production is necessary. This is followed by a summary of the restrictions placed on these materials by the Government and how these restrictions impacted piano production. When possible the source of the materials is discussed and how the trade of the materials was affected by the war.

The Need to Control Materials

In order to maximise war production while limiting civilian production during the war years, the British Government needed to find ways of regulating the distribution and consumption of raw materials. Controlling these materials was not a simple matter. First, the Government conducted a survey of all available national resources to understand (1) the sources of the materials, (2) who distributed the materials, and (3) which manufacturers produced items with the materials. After this survey was completed the Government created criteria which decided priority in allocating raw materials. This priority was in place to ensure that manufacturers producing items for the war effort were able to obtain the necessary materials while simultaneously restricting domestic production. Finally, the Government needed to implement this priority system throughout all manufacturing, which was done through a licensing system.²¹⁶

Licensing enabled the Government to cut down on private or domestic production of needed raw materials by refusing licences to companies who did not have a contract from a Government department. This then reduced private consumption by limiting the availability of products made with these materials. The controls also regulated the price of raw materials to prevent profiteering by unscrupulous dealers.²¹⁷

²¹⁶ Bowen and Worswick, 77.

²¹⁷ A number of articles and books describe the manner in which the Government was able to take control and regulate large amounts of raw materials. The sources consulted in this chapter include the official account of the control of raw materials by J. Hurstfield entitled *The Control of Raw Materials*. In addition to the official account, Iain Bowen and G. D. N. Worswick's excellent article "The Controls and War Finance," published in the *Oxford Economic Papers*, gives an overview of the planning of controls, as well as, case studies of the control of timber, iron and steel, paper, and wool. Worswick's follow up article "British Raw Materials Control," again published in the *Oxford*

The Government organised the control of materials by creating “Control Boards.” These boards oversaw the distribution and use of raw materials or commodities. If a material was vital to the war effort and was in demand, the material had its own control board, for example, the Timber Control Board was charged with regulating the supply of timber, whereas the Non-ferrous Metals Control Board was in charge of copper, zinc, and tin. As war production increased and materials became more scarce, controls were expanded. At the start of the war around 20 materials were under control, but by October 1941 over 60 materials were regulated under various control boards.²¹⁸ These boards reported directly to the Ministry of Supply. The boards impacted production and distribution through the issuing of Control Orders. The orders placed restrictions on the amount of materials available to manufacturers, set the price of raw materials, stated which institutions or companies were able to purchase raw materials, and determined how manufacturers were able to use previously held stocks.

The time frame of controls and their severity varied as each control board was independent of the others. In general, during the first nine months of the war the release of materials to the domestic market was not consistently restricted as each board enacted and enforced the controls of materials at different times. This led to wool coming under the complete control of the Government by the end of September 1939, whereas iron and steel did not come under the same severity of restrictions until April 1940.²¹⁹

Economic Papers, expands the case studies to include discussion on non-ferrous metals, aluminium, and jute controls. Frank House’s monograph *Timber at War* gives an in-depth look into the control of timber and its uses during the war years and A. Brigg’s November 1947 article “The Framework of Wool Control” in the *Oxford Economic Papers* outlines how the U.K. Government structured the wool industry during the war years.

²¹⁸ Worswick, 1.

²¹⁹ Bowen and Worswick, 87.

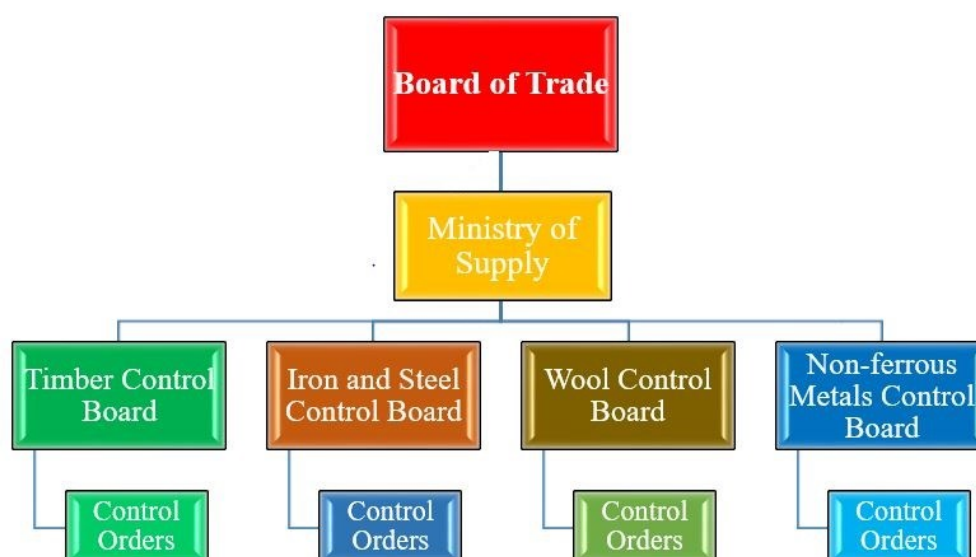


Table 4. Example of the overarching organisation of the control of raw materials

Timber

The majority of the parts of a piano are made from wood, including the frame (also called the rim or the case), bracing, soundboard, and action. According to the War Production Board, on average 198.4 feet of lumber is used in the construction of a piano with an additional 186 square feet of veneer and cross banding (see Table 2). A variety of species of trees are used in piano construction.

In the 1927 supplement to his book *A Treatise on the Art of Pianoforte Construction*, Samuel Wolfenden goes into detail regarding the woods used by British piano manufacturers, especially the timber used in the construction of the soundboard. His writing mentions how British piano makers were not able to manufacture an “All British Piano” because the industry relied on materials which were imported into the country. He said, “There are natural products for which, by reason of our insular position, climatic and other conditions, we must always depend upon foreign countries.”²²⁰ In general, Great Britain was not able to grow the volume or variety of the timber needed to supply the industry and had to source its supplies elsewhere.

²²⁰ Samuel Wolfenden, *A Treatise on the Art of Pianoforte Construction* (Henley-on-Thames: Grasham Books, 1982), 234.

Pianos were manufactured in three sizes before the war. They were grand, upright, and miniature.

UPRIGHT PIANOS			MINIATURE PIANOS		
VERTICAL MODELS					
STV	...	£19 0 0	Minx Mahogany	...	£26 0 0
E Streamline	...	£19 15 0	" Coloured to any shade	...	£28 0 0
Marvel	...	£20 0 0	" Maple	...	£29 0 0
			" with Green or Walnut Edging	...	£29 0 0
			" Louis XV style	...	£29 0 0
			" Antique Walnut	...	£29 0 0
OVERSTRUNG MODELS			GRANDS		
Underdamper Actions					
Midget	6 oct.	£19 15 0	Miniature (3 ft. 6 ins.)	6 oct.	£33 10 0
S.N.	7 oct.	£22 10 0	7½ Octaves		
C Streamline	}	£23 15 0	Miniature, Ivorite Keys (4 ft.)	...	£39 0 0
Jubilee			" Ivory Keys (4 ft.)	...	£41 0 0
FY	...	£25 0 0	Grands in Walnut	...	£3 0 0 extra
D	...	£25 10 0	Streamline or Olympia Model	...	£1 0 0 "
Cubist Mahogany	...	£26 10 0	Cabriolet Legs	...	£3 0 0 "
" Walnut and Green	...	£27 10 0			
" Maple and Walnut	...	£29 10 0			
N.S., Ivorite Keys	7½ oct.	£28 0 0			
Upright & Miniature Pianos in Walnut			£1 0 0 extra		
Upright Pianos with Chromium fittings			10 0 "		
Electric Light Fittings			£2 0 0 "		

Figure 7. Price list showing the three sizes of pianos produced before the war. "Wholesale price-list 1939" Kemble Company Archives. Hackney History Centre. Image by author.

On average it was estimated by the Board of Trade that a piano required 50 square feet of timber in the construction of the outer case and another 50 square feet for the construction of the internal components including the soundboard, action, and keys.²²¹ There are a number of types of timber used in the construction of each piano including, but not limited to birch, maple (often referred to as sycamore in United Kingdom),²²² beech, mahogany, walnut, spruce, and poplar.

²²¹ This amount of material is in contrast with the American piano makers' report to the War Production Board. The difference in material use may be a result of the popularity of smaller instruments, such as the miniature piano in Britain. These pianos were less popular in the United States, which preferred full-sized upright and grand pianos. Memorandum A – Factual Survey. March 1942. BT 64/1786. National Archives.

²²² In Britain, trees from the genus *Acer* are often referred to as sycamore if the timber was harvested in the United Kingdom. If the tree was harvested outside of the United Kingdom, then the wood can be referred to as sycamore or maple. The most common maple species in Europe is the sycamore maple (*Acer pseudoplatanus*); the most common species in North America is sugar maple or hard maple (*Acer saccharum*). "Sycamore (*Acer pseudoplatanus*)" Woodland Trust, accessed 01 November 2016, <https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/common-non-native-trees/sycamore/>.

Use of Timber in Piano Production

Piano rim: In grand piano construction the rim consists of layers of thin strips of wood laminated together and bent into shape to form a continuous rim with no joints.²²³ The wood used to make the rims included American ash (*Fraxinus americana*), sequoia (*Sequoiadendron giganteum*), whitewood (*Liriodendron tulipifera*),²²⁴ maple (*Acer pseudoplatanus* or *Acer saccharum*), or any wood with a fairly long grain. The higher quality rims were made entirely of layers of maple; rims made of other lower quality woods had the two outer layers made of maple.²²⁵ The number of layers and their thickness were not universal, with each manufacturer having their own particular construction techniques.²²⁶ Some pianos used an “inner/outer” construction in which the inner rim was made of less expensive strips of poplar (*Populus tremula*) with the braces, soundboard, and iron plate fitted to this rim. As the piano neared completion, outer boards of maple were fitted around the outer rim of the piano.²²⁷ In either construction technique, the outer surface of the rim would be covered in a decorative veneer²²⁸ or lacquered. After the rim was completed, the back frame and braces, which support the weight of the iron plate, were built into the case. The type of wood used for braces varies between manufacturers with spruce being the most common.

²²³ William White, *Theory and Practice of Piano Construction* (New York: Edward Lyman Bill, 1906; reprint, New York: Dover Publications, Inc., 1975), 67.

²²⁴ There are a number of woods which are referred to as “whitewood” including *Bucida buceras*, *Liriodendron tulipifera*, *Tabebuia heterophylla*, and *Elaeocarpus kitonil*. Of these species, the most likely timber used for piano construction is *Liriodendron tulipifera*, or tulip tree. This tree is a fast growing tree from North America which grows tall and straight. The other trees are subtropical or tropical trees with slow growth rates. “*Liriodendron tulipifera*: tulip tree” Royal Horticultural Society, accessed 27 August 2016, <https://www.rhs.org.uk/plants/details?plantid=1177>.

²²⁵ Wolfenden, 147.

²²⁶ Steinway uses 17 layers of wood in their rims. James Barron, *Piano: The Making of a Steinway Concert Grand* (New York: Times Books, 2006), 2.

²²⁷ Ibid, 8.

²²⁸ Many different types of wood were popular choices for the veneer of pianos. These include but are not limited to walnut (*Juglans regia*), mahogany (*Swietenia*), and rosewood (*Dalbergia*).

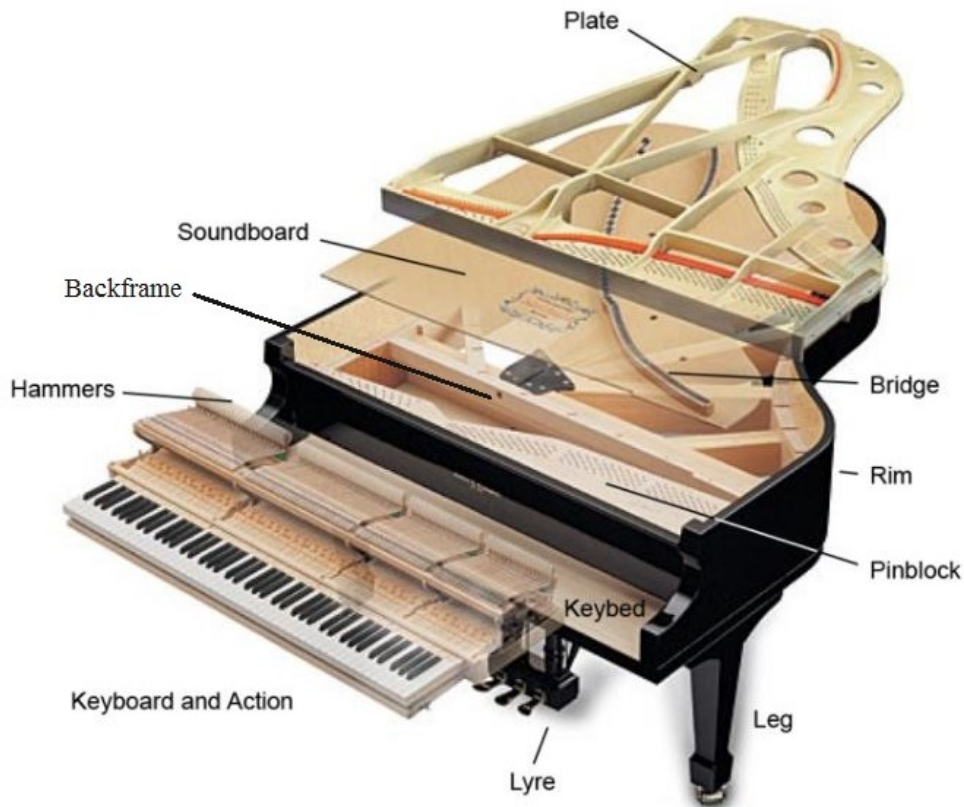


Figure 8. Exploded view of a grand piano. Image courtesy of <http://www.radfordpiano.com/structure/> and modified by the author.

In upright pianos, the case of the instrument is not integral to the resonant body of the piano, but instead serves as a support for the keyboard and action.²²⁹ Since the case of the instrument had no acoustic implications, it was made from a number of different woods, all of which could be as decorative or as simple as the maker desired. Common woods used for upright piano case construction were varieties of oak (*Quercus*), pine (*Pinus*), and spruce (*Picea*), which were often veneered with decorative woods. Unlike in the construction of grand pianos, the case of an upright piano was built up around the soundboard and iron frame.²³⁰

²²⁹ According to White, the exterior walls of the upright “exist chiefly for the purpose of giving support to the key-board [sic] and action, and of affording a foundation whereon may be constructed the elaborate architectural and decorative structure that, in its entirety, is denominated the pianoforte case.” The frame of the grand piano, on the contrary, is charged with not only supporting the key frame and action but is also an essential part the resonant body. White, 67.

²³⁰ Ibid, 73.

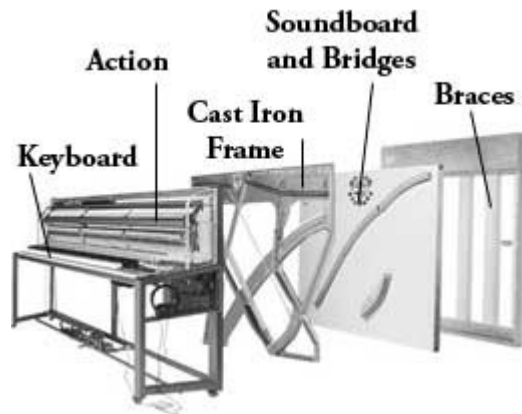


Figure 9. Exploded view of an upright piano. Image courtesy of <http://www.thepianospace.com> and modified by the author.

Sound board: Perhaps the most important wooden structure in a piano is the sound board. This thin piece of wood acts as the main resonating device of the piano and it requires a wood which can both flex easily and vibrate freely. Sound boards of pianos are usually constructed of a sheet of spruce.²³¹ According to Wolfenden, the timber used in the piano industry for the construction of sound boards was called “Swiss pine”²³² by British makers but it is actually Norway spruce (*Picea abies*),²³³ which grows throughout northern and central Europe. For instrument making the preferred region to source this wood was between latitudes 45 and 50 degrees north in mountainous countries extending from the Alps to the Carpathian ranges. English piano makers in particular were receiving a large portion of their wood supplies in the late 1920s from the Balkans.²³⁴ In addition to Norway spruce, English piano makers

²³¹ Barron, 74.

²³² According to Wolfenden, the piano industry called Norway spruce “Swiss pine” because they originally sourced the wood from Switzerland. When the forests of Switzerland were exhausted of quality timbre the wood was then sourced from other countries. Wolfenden, 234.

²³³ In the treatise, Wolfenden refers to the Norway spruce as “*picea excelsa*” which is an obsolete scientific name for *Picea abies*. Ibid, 235. Information on the Norway spruce was sourced from “Spruce, Norway (*Picea abies*),” Woodland Trust, accessed 1 November 2016, <https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/common-non-native-trees/norway-spruce/>.

²³⁴ Although Wolfenden did not elaborate as to the countries from which England imported its sound board wood, today the Balkans are considered to consist of Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Greece, Macedonia, Montenegro, Romania, Serbia, Slovenia, and parts of Turkey. Most likely British makers were importing wood from Romania, as this was referenced in S. A. Hurren, Secretary of the Pianoforte Industries and Export Group to E. A. Fisher, Board of Trade. “Messrs. Chas. H. Challen and Sons,” 16 October 1943. BT 64/1783. National Archives.

were using silver spruce (*Picea engelmannii*) sourced from America, and the silver fir (*Abie alba*) sourced from Europe.²³⁵

The ribs attached to the underside of the sound board are made of pine and are aligned so they run perpendicular to the grain of the sound board.²³⁶ Glued to the top of the sound board are two bridges. These bridges are made from several strips of beech (*Fagus sylvatica*) or maple which are glued together so that the grains of each layer cross each other.²³⁷

Piano action: Historically, wood such as hornbeam (*Carpinus betulus*), beech, or maple (*Acer platanoides*) have been the favoured timber for making piano actions.²³⁸ Action parts need to be made of a wood that has a reliable structure that can withstand not only the repetitive motion and impact of the striking hammer, but also be resistant to wear from the multiple moving parts. As the action is a complicated mechanism, the wood used should be easily shaped but dimensionally stable as small changes in the environment can cause swelling of the wood grain which could affect the efficiency and “feel” of the action. The hammerflange, a small stick in which the piano hammer is attached, is traditionally made of birch²³⁹ but maple and hickory were also used.²⁴⁰

The keys of the piano rest on a keybed made of spruce and are held in place by cheek blocks which were often made from cut-off sections of the rim. The wood used for the keys of British-made pianos was common lime (*Tilia x europaea*),²⁴¹ but as the material grew scarce, makers switched to using Norway spruce or basswood (*Tilia americana*), a tree native to eastern North America with a similar colour and texture to common lime.²⁴²

²³⁵ Wolfenden, 236.

²³⁶ Barron, 74.

²³⁷ White, 62.

²³⁸ Ulricke G. K. Wegst, “Wood for Sound” *American Journal of Botany* (October 2006): 1445.

²³⁹ Wegst, 1446.

²⁴⁰ Wolfenden, 122.

²⁴¹ Common lime, or lime trees, are not to be confused with the citrus tree. The common lime is species of linden and is native to the U.K. and some parts of Europe. In the U.K. the name lime and linden are often used interchangeably. The wood is soft and light, easy to work in woodworking, and does not warp. “Lime, common” Woodland Trust, accessed 27 August 2016, <https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/native-trees/common-lime/>.

²⁴² Wolfenden, 113.

Needs of Timber for the War Effort

During the Second World War, not only were many naval ships and airplanes made of wood, but so were the devices which cleared ocean mines, allowed tanks to cross muddy land, and built the impromptu bridges which allowed invasion forces to enter into Europe. Wood was also used to transport ammunition, supplies, and food to soldiers on the ground.²⁴³ It was one of the most important materials needed for the war effort and was quick to come under restrictions.

The Ministry of Supply was the largest consumer of timber during the war, followed by the Ministry of Aircraft Production and the Air Ministry. The Ministry of Supply was responsible for seeing to the needs of the army, and as a result it had a varied need for timber. The material was used for everything from packing crates to munitions boxes, tool handles to gun carriages, rifles stocks and office furniture to coffins.²⁴⁴ The Ministry of Aircraft Production needed timber for the construction of aircraft, not only for the bodies of planes such as the Mosquito bomber, but also for the construction of jigs and patterns used in the construction of wood and metal bodied aircraft. Silver spruce was the preferred wood for much of this work as it could be cut into long lengths and was free from serious defects. The demand for silver spruce, and spruce in general, put the wood at a higher price than that of other European woods.²⁴⁵ In addition to military needs, timber was needed on the home front, where it was used to build homes, repair damage to buildings caused by the Blitz, and for basic needs such as furniture.

Control of Timber

Prior to the outbreak of war, the government began to create a scheme for the control of timber that would be implemented should war be declared. The planning for these controls began by the Board of Trade towards the end of 1936 and continued in earnest in the later months of 1937. By the autumn of 1938 a draft scheme had been written.²⁴⁶ Under the scheme there would be a virtual closing down of commercial trade and all timber would come under the control of the Timber Control Department of the

²⁴³ Frank H. House, *Timber at War: An account of the Organisation and Activities of The Timber Control 1939-1945* (London: Ernest Benn Limited, 1965), 1-3.

²⁴⁴ J. Hurstfield, *The Control of Raw Materials*, A History of the Second World War, War Production Series (London: Her Majesty's Stationery Office, 1953), 101-103.

²⁴⁵ Wolfenden, 238.

²⁴⁶ House, 4.

Ministry of Supply. The Timber Control Department was organised by the Controller – a person who regulated the production, purchase, transport, storage, distribution, and sale of timber. He would be aided by a Joint Advisory Committee which was made up of members of various trade bodies. Under the Controller there were four departments:

1. imported timber supplies;
2. home-grown timber supplies;
3. distribution, inland transport, and price control;
4. finance.²⁴⁷

In the draft scheme timber was defined as:

...any wood which is not further prepared than felled, barked or peeled, cleft, split or riven, hewn or sawn, planed, dressed, tongued, grooved, matched, beaded or v-jointed, dried or seasoned, soaked or steamed, bent, treated with any preservative or painted; and any shingles, weatherboards, lap or strips, however prepared; and salvage or reclamation timber; provided that the expression 'timber' does not include any

- (i) Growing trees
- (ii) Willow rods or willow sticks
- (iii) Unused boxboards
- (iv) Unused plywood
- (v) Veneer
- (vi) Firewood blocks or kindling wood
- (vii) Round timber or underwood of which the butt diameter measured under bark or without bark does not exceed two-and-a-half inches.

This meant that manufactured and semi-manufactured articles made of wood were not under the control of the Department. For the piano industry, this meant manufacturers were able to continue to make pianos using manufactured or partially manufactured wooden piano parts but that stocks of raw lumber fell under controls. Overall, timber controls worked by having the Government purchase timber supplies and then implement a licence system in which the Government distributed and controlled consumption. The licensing system safeguarded supplies, ensuring they went to vital war purposes.²⁴⁸

Making matters more difficult was the need to import timber from sources outside the U.K. A large portion of the supply of timber, other than veneers, was from Canada,

²⁴⁷ Ibid, 5.

²⁴⁸ Ibid, 8-10.

but timber was also imported from Norway, the Balkans, and the Baltics. As Germany expanded its territory through invasion and military success,²⁴⁹ these sources of timber were cut off and by the end of the first year of the war the U.K. was unable to access 60% of the previous year's timber imports.²⁵⁰ Romania was also a source of timber in the early months of the war, but when that country allied with Germany in November 1940 this supply was also cut off.²⁵¹ Eventually, in March 1941, the Lend-Lease Act was passed and the U.K. began receiving wood from the U.S.A.²⁵²

When war was declared on 3 September 1939, the first Control of Timber Order (No. 1) went into effect.²⁵³ This order restricted the amount of timber that could be used in manufacture and sold to the domestic market to "10% of the seller's stock in each category with the exception of timber required by Government Departments or by public authorities for use under the Civil Defence Act. Merchant to merchant trade was exempted."²⁵⁴ The order restricted the sale of timber to 10% of what the retailer had sold in the previous year, unless the retailer was selling to the Government, public authorities, or to another merchant. This allowed for the government to purchase almost all supplies of timber and then begin implementing a licence system in which the government distributed and controlled consumption of the raw material.

For the piano industry, this meant that by September 1939 piano firms could continue to make pianos with any manufactured or partially manufactured wooden components, but they were limited to using only 10% of their stocks of raw materials in order to manufacture new parts. The rest of their stocks were to be sold to the Government.

Over the war period, the Timber Control Order would be refined 36 times,²⁵⁵ each refinement placing more restrictions on the acquisition and use of different types of timber. The restrictions placed on timber during the first year had a significant impact on piano making, ultimately aiding in the eventual shutdown of the entire industry. For

²⁴⁹ The defeat in Norway in April 1940 deprived Britain of one of its main peace-time sources of timber, papermaking material, and iron ore. Rosella Cappella, "The Political Economy of War Finance" (PhD dissertation, University of Pennsylvania, 2012), 229.

²⁵⁰ This is in terms of value. Bowen and Worswick, 79.

²⁵¹ House 15.

²⁵² Ibid, 17.

²⁵³ The order was dated 1 September 1939. Bowen and Worswick, 79.

²⁵⁴ House, 24.

²⁵⁵ Ibid, 26.

example, Timber Control Order (No. 4) restricted manufacturers from trading timber, boxboard, and plywood abroad, thus limiting piano manufacturers from acquiring many of the woods needed in piano production. Timber Control Order (No. 5), dated 30 September, introduced a licensing system for the acquisition of timber for consumption. The licensing system allowed the Government to control who was able to purchase timber supplies by requiring companies to have a licence from the Minister of Supply.²⁵⁶ A striking blow to the piano industry came with Timber Order (No. 7), enacted in March 1940. This order prohibited the use of a holder's own stock without a timber licence. For piano manufacturers it meant that they were only able to use previously manufactured or semi-manufactured wooden components in the production of pianos and they were not able to manufacture new wooden components from their own stocks of raw lumber without a licence. Overall, licences were granted to manufacturers who were making products for the war effort or who had government contracts for domestic production.²⁵⁷ The sale of veneer also came under a licensing scheme on 3 April 1940 with Control of Timber Order (No. 10) which limited the sale of veneer only to manufacturers who received a timber licence.²⁵⁸

On 1 July 1940, Timber Order (No. 13) went into effect. This order set "fixed prices"²⁵⁹ for imported timber and prohibited, except under licence, the acquisition and consumption of timber for any purpose."²⁶⁰ The order stopped merchant-to-merchant trade as well as any acquisition of timber for non-government related production. It coincided with the Consolidation of Industry Scheme and helped to end domestic production of pianos because manufacturers were unable to purchase the necessary supplies to produce pianos (see Chapter 4 for more details). Once piano manufacturers had used their existing stocks of manufactured or semi-manufactured parts, they would

²⁵⁶ Bowen and Worswick, 79.

²⁵⁷ "Ministry of Supply" *Music Trades Review*, April 1940, 73.

²⁵⁸ Ibid.

²⁵⁹ The use of price fixing was an important facet of the control of materials. By setting a maximum price for materials, the Government stopped potential war profiteering while simultaneously ensuring companies were paid appropriate amounts for materials. The prices were set by the individual control departments which were typically made up of individuals from that industry, for example the Timber Control Department had individuals from the Timber Trades Association. Bowen and Worswick, 79.

²⁶⁰ House, 25.

not be able to acquire timber for the production of pianos unless the company had a specific licence from the Government to do so.

After July 1940 the acquisition of timber for the piano industry was impossible without a timber licence. As the Government pushed for companies to switch to war production, the number of licences granted to piano manufacturers for the production of domestic pianos lessened and in August 1941 the Ministry of Supply informed the piano industry that timber was no longer available for the production of pianos to be sold domestically.²⁶¹ From this time forward piano manufacturers were only able to obtain timber licences if they had contracts for the production of pianos for the export market (available until April 1942), for instruments to be sent to the military (until 31 August 1943), or if they were making products for the war effort.

Iron and Steel

Iron and steel were imperative materials for the war effort. As iron is the main component in steel, the two materials were controlled by the same Control Board and control orders. Although grouped together by the Ministry of Supply, iron and steel were used for very different purposes and in different quantities in piano manufacturing and it is important to examine their uses independently before exploring how the materials were needed for the war effort and subsequently controlled.

The Use of Iron in Piano Production

Iron constitutes the second largest amount of raw material used in the production of pianos with an average of 150 lbs of iron used in every instrument. Iron is used in the production of the iron frame, also called the iron plate, which acts as a major structural element in the piano. The iron plate absorbs the downward force exerted by the tension of the strings, protects the soundboard, and prevents the other timber elements from warping under the pressure of the strings.

British piano manufacturers did not make, or “cast,” their own frames but relied on iron foundries who produced the frames to the specifications of each manufacturer. In the 1940s the British piano industry relied on three iron foundries to supply frames to

²⁶¹ Eugene Sotheran, “Questionnaire for Retailers,” *Music Trades Review*, August 1941, 121.

the entire industry. These were: The Brown Foundry in Northampton; Booth and Brooke in Burnham on Crouch; and John B. Clark in the Tottenham area of London.²⁶²

Each frame was made from a combination of both scrap iron and red hematite pig iron.²⁶³ The mixture of the two irons increased the low tensile strength of pig iron. Scrap iron was preferred to raw pig iron because repeated melting and cooling of the iron contributed to an increase in the tensile strength. Using scrap iron was a cheaper alternative to repeatedly heating and cooling large amounts of iron in order to temper the iron for use. The combination of materials resulted in a frame which was strong enough to withstand the pressure of the strings but soft enough to be drilled for the placement of tuning pins and positioning screws.²⁶⁴

The Use of Steel in Piano Production

Compared to the amount of timber and iron used in pianos, the percentage of steel used in the making of a piano is very small. Steel is used in the production of piano wire and tuning pins and each piano contains, on average, 4 lbs of high tensile steel wire²⁶⁵ and 3½ lbs of Siemens-Martin low carbon content mild steel²⁶⁶ used in tuning pins. Bass strings were actually a combination of a steel wire core and some other metal, usually 4½ lbs of copper or iron wound over the core.²⁶⁷ Although less than 8 lbs of steel was used per instrument, the material is an essential component of a piano, and when steel came under restrictions piano production suffered.

²⁶² Memorandum A – Factual Survey. March 1942. BT 64/1786. National Archives.

²⁶³ Ibid.

²⁶⁴ Wolfenden, 144.

²⁶⁵ High tensile steel is an alloy with manganese molybdenum vanadium and has a yield strength of 47,000 psi. Herman Sheets and Victor T. Boatwright, editors, *Hydronautics* (New York: Academic Press, 1970), 304.

²⁶⁶ This type of steel is produced in an open hearth furnace in which pig iron is heated to remove excess carbon and impurities to create steel. The steel is more malleable than high carbon content steel and not as strong. Mild steel has a relatively low tensile strength and is cheaper to produce than high tensile steel. Hans Burns, *The History of Hardening* (Egerkingen: Härterei Gerster AG, 2013), 44-45.

²⁶⁷ These materials were controlled by the Non-ferrous Metals Control. In addition to copper, this control board also oversaw the use of lead and zinc. The materials were under a complete licensing system from the beginning of the war as the metals were too scarce and none were produced locally; instead they were imported either from the Empire or from France. These materials came under control with Control Order No. 1 (1 September 1939) and all transactions of these metals were subject to the Ministry of Supply's approval and licence. Bowen and Worswick, 82.

Needs of Iron and Steel for the War Effort

Iron and steel were used for a large range of materials during the war, but their primary use was for armaments. Iron and steel were used in the production of tanks, airplanes, naval ships, and weapons. Iron, as the main component in steel, was controlled in order to ensure the supply of this material for steel production and as a result the distribution of iron for the manufacture of piano frames was strictly controlled.

Although small amounts of steel were used in the production of pianos, this material, particularly the type of steel used in piano wire manufacturing, was of the utmost importance to the war effort. High tensile steel was in very short supply and was not only used in the production of the hulls of naval ships and submarines,²⁶⁸ but also required for balloon barrages, as well as Long Aerial Mines, otherwise known as “piano wire bombs.”²⁶⁹

Barrage balloons were a passive means of defence used in the Battle of Britain and were designed to force enemy planes to fly at higher altitudes, thus making them vulnerable to anti-aircraft weapons. The balloons consisted of a helium- or hydrogen-filled balloon anchored to the ground by up to 5,000 feet of cable made from high tensile steel and deployed by a winch.²⁷⁰ In addition to rerouting German aircraft flight patterns, the balloon cable could cut through the wings of the aircraft, causing it to crash.²⁷¹ The use of barrage balloons was controlled by Balloon Command, a part of Fighter Command under the RAF.²⁷² By August 1940, Balloon Command had 2,368 barrage balloons and would maintain close to 2,000 operational balloons until the end of the war.²⁷³

Long Aerial Mines (LAM) were designed to be able to break up enemy aircraft formations by creating a bomb field in the air. Each LAM consisted of a cylindrical

²⁶⁸ Sheets and Boatwright, 304.

²⁶⁹ Memorandum A – Factual Survey. March 1942. BT 64/1786. National Archives.

²⁷⁰ “Other Commands,” Royal Air Force Museum, accessed 27 April 2016, <http://www.rafmuseum.org.uk/research/online-exhibitions/history-of-the-battle-of-britain/other-commands.aspx>.

²⁷¹ During the height of the Blitz, balloon barrages accounted for 62 German planes that either crashed or were forced to land. Franklin J. Hillson, “Barrage Balloons for Low-Level Air Defence” *Airpower Journal* Summer 1998 (journal online), accessed 27 April 2016, <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj89/sum89/hillson.html>.

²⁷² “Other Commands,” Royal Air Force Museum.

²⁷³ Balloon Command had 52 operational balloon squadrons consisting of 33,000 men.

container measuring 14 inches long and 7 inches in diameter and weighing 14 pounds. The containers were released from an aircraft and were positioned in a line in the flight path of an advancing German fighter squadron. When each container was deployed, a parachute unfurled at the top. It was followed by a length of shock-absorbing cord, the cylindrical container, an AAD bomb, 2,000 feet of piano wire, and at the bottom, a second parachute.

As enemy aircraft flew into the path of the LAM, the wings would catch on the piano wire. This would cause the main parachute to be released which also armed the bomb. The force of the momentum of the plane would pull the bomb down onto the aircraft resulting in an explosion.²⁷⁴

²⁷⁴ Alfred Price, "Clipping the Eagle's Wings" *Aeroplane Magazine* August 2006 (online version); accessed 27 April 2016, <http://www.rafjever.org/93squadhistory2.htm>.

Each Long Aerial Mine unfurled to create one element of a barrier spread across the sky. It comprised, from top to bottom, a medium-sized parachute, a 1-pound bomb, 2,000ft of piano wire and a parachute in its container. The 120 mines carried by a Harrow bomber, released at 200ft intervals at right angles to the track of the incoming German bombers, produced a slowly descending barrier about 4¼ miles long and nearly half a mile deep. Released from 20,000ft, the mines descended at about 1,000ft per minute. If an aircraft struck the wire, the shock of impact released the upper parachute and at the same time unfurled the parachute at the bottom of the wire. The lower parachute rapidly took up a position behind the aircraft, and pulled down the bomb which exploded on impact.

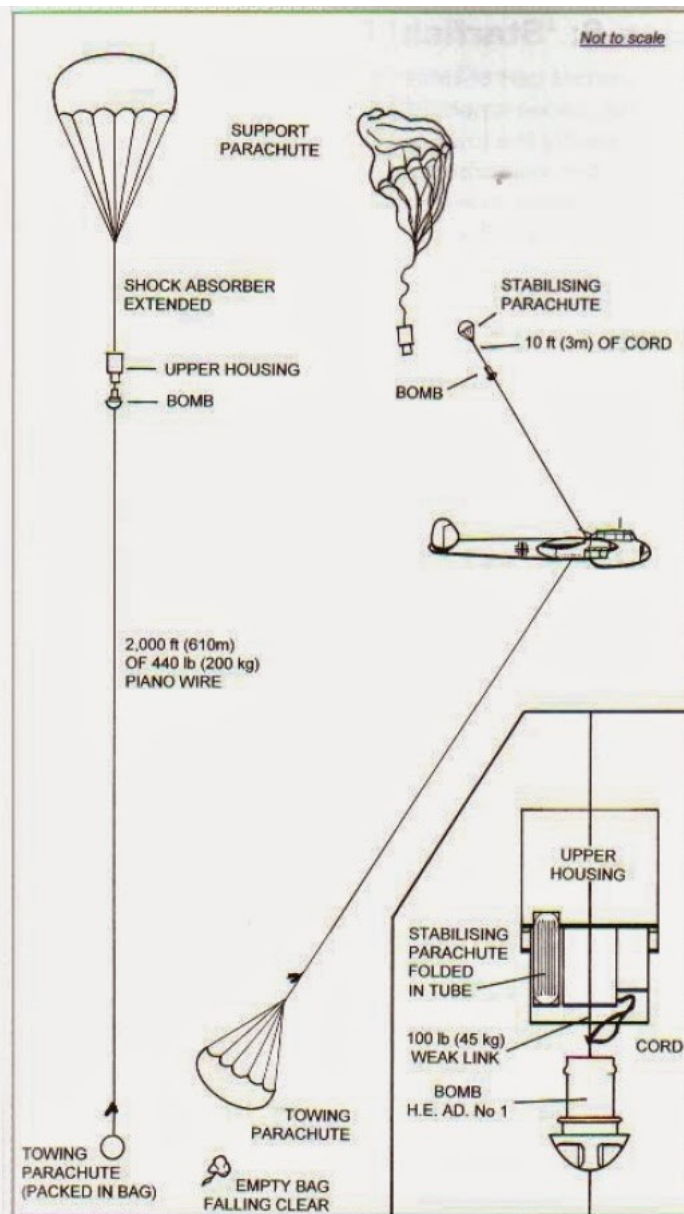


Figure 10. Diagram and description of the Long Aerial Mine. Image courtesy of Mitch Williamson, <http://airwargreatbritain.blogspot.co.uk/2015/03/world-war-ii-churchills-aerial-mines.html>.

In the end the LAM proved unsuccessful. It was not ready in time for the Battle of Britain and when it was used from September 1940 until October 1941 it failed to down a significant number of enemy planes. In general, the bombs were used as a defence during night time raids and were deployed out at sea for fear that unexploded

bombs would land and explode on British soil. In total it is believed that only 4-6 German airplanes were destroyed with LAM bombs over a one-year period.²⁷⁵

Control of Iron and Steel

At the beginning of the war, the United Kingdom sourced iron and steel domestically and imported materials from Europe and from across the empire. This included large amounts of iron and steel from Norway, France and Belgium,²⁷⁶ South Africa, Australia, New Zealand, and India; as well as Algeria.²⁷⁷ As Germany took control of Europe, Britain was cut off from its European suppliers and had to rely more heavily on other sources of materials. By 1941 Britain was importing large quantities of iron and steel from the United States.²⁷⁸

The controls placed on iron and steel followed a similar pattern to those placed on timber with the Government taking over supplies, restricting acquisition, and implementing a licensing system for use with the distribution of the material controlled by the Iron and Steel Control Department of the Ministry of Supply.

Unlike the timber industry, the complete Government control of iron and steel did not take place within the first few months of the war, but over the course of nine months. The initial principle of the Iron and Steel Control²⁷⁹ department was that of “business as usual” with the belief that the industry could “produce as much iron and steel as she wants” by working overtime, increasing employee numbers, restarting idle furnaces, and building new furnaces. This resulted in both Government ministries and private industry placing orders well in excess of the output capacity of the industry. Companies were encouraged to quote Government contract numbers when ordering steel and iron with the idea that these numbers would influence which contracts were

²⁷⁵ Price, “Clipping the Eagle’s Wings.”

²⁷⁶ Overall Europe supplied 78% of the imports of iron ore and 56% of the imports of iron and steel to the United Kingdom in 1938. Hurstfield, 159.

²⁷⁷ Ibid, 153.

²⁷⁸ In 1937 Britain imported 315.4 thousand tons of iron and steel from the United States. This increased to 3,349.6 thousand tons in 1941. Ibid, 160.

²⁷⁹ The Controller of this department was Sir Andrew Duncan, who was Chairman of the British Iron and Steel Federation before the start of the war. Duncan’s pro-business attitude at the start of the war was most likely influence by his previous position according to Bowen and Worswick. Bowen and Worswick, 88.

given priority. Not surprisingly, this system was faulty and both deliveries to Government and domestic orders fell in to arrears.²⁸⁰

The first Control Order went into effect on 3 September 1939 and stabilised the price of iron and steel products, except for scrap. Scrap was given a maximum price on 22 September with Iron and Steel Order (No. 3). Also included in the first order was a licensing of the purchase and sale of iron and steel, but, unlike the timber order, there was a long list of exemptions from the licensing. This included:

Government defence departments; other Government departments; local authorities for Civil Defence purposes; persons requiring supplies under the Civil Defence Act 1939, or otherwise for A.R.P.;²⁸¹ shipbuilders and repairers; collieries; persons requiring steel to fulfil orders made before 1 September; persons with urgent requirements in the next fourteen days; persons purchasing 10 cwt.²⁸² or less.²⁸³

This meant that piano makers who had orders placed before 1 September were still able to purchase iron and steel. This loophole was closed at the end of 1939 when the Minister of Supply cancelled the exemption of pre-war contracts.²⁸⁴ Companies that had war production work only needed to supply a contract number or reference to their contract in purchasing the material.

The system of 'business as usual' ended in April 1940 when all manufacturers had to obtain a licence to acquire iron and steel. This was through the Control of Iron and Steel Order (No. 8). The aim of the order was to allocate every ton of iron and steel to the best possible use.²⁸⁵ Just as in the case of timber, obtaining a licence was difficult as the applications favoured industries that were manufacturing items for the war effort.²⁸⁶ The Iron and Steel Control Department allocated global tonnages of iron and steel in advance and the contracts each department could issue were not allowed to

²⁸⁰ Ibid, 80.

²⁸¹ A.R.P. stands for Air Raid Precaution, the organisation in charge of protecting civilians during air raids.

²⁸² During the Second World War cwt stood for hundredweight or centum weight and equalled 112 lb.

²⁸³ Bowen and Worswick, 88.

²⁸⁴ Ibid, 89.

²⁸⁵ Ibid.

²⁸⁶ "Ministry of Supply," *Musical Trades Review*, April 1940, 73.

exceed the total tonnage allocated. This resolved the issue of too many orders being placed without enough materials to fulfil the orders.²⁸⁷

Although piano manufacturers were not responsible for producing their own iron frames or steel piano wire, the restrictions placed on these materials for domestic production would make acquiring iron frames and piano wire increasingly difficult and then impossible in the war years. The acquisition of iron frames and the restrictions on the material did not seem to concern the piano industry in the first year of the war, which is evident in Eugene Sotheran's July 1940 article in the *Music Trades Review* where he stated that the "question of iron frames is well in hand."²⁸⁸ It is possible that the industry had foreseen the potential restrictions on iron and had purchased excess stocks of the materials before restrictions went into place.

By 1941 the piano industry had used its stocks of iron and steel and had to apply for licences for the production of pianos for the export market and for the production of pianos for the military. From 1 July through 30 September 1941 the industry was allocated 154 tons of iron for the production of piano frames, 2 tons of high tensile steel for wire, and 8 tons of low carbon content mild steel for tuning pins. The iron was enough for the production of 2156 piano frames;²⁸⁹ the steel produced 500 sets of piano wire and 2400 sets of tuning pins.²⁹⁰ The disparity between the number of frames and sets of wire shows the priority held by high tensile steel within war production capacity. This allocation of iron and steel granted to the industry during 1941 would be the last amount of these materials released for piano production until after the end of the war.

Wool

The Use of Wool in Piano Production

The wool used in piano production was for felt. Felt parts included piano hammers and dampers, key bushings, action felt, rail and action cloth, and punchings.²⁹¹ Like iron

²⁸⁷ Bowen and Worswick, 80.

²⁸⁸ Eugene Sotheran, "Keeping the Piano Industry Alive: Piano Trade Committees Act" *Music Trades Review*, July 1940, 127.

²⁸⁹ The average weight of a piano frame was 150 pounds and each ton of iron could produce, on average 14 frames. Memorandum A – Factual Survey. March 1942. BT 64/1786. National Archives.

²⁹⁰ Ibid.

²⁹¹ Balance rail and key rail punching are small disks of felt placed under the keys which were used to regulate and balance the "touch" of the action.

Control of Wool

Of all the materials controlled by the Board of Trade during the Second World War, wool was the first commodity to come under complete control. During the war the Government would not only enforce strict controls over the manufacture and consumption of wool, thus reducing domestic production, but it would also institute a rationing system on clothing, ensuring that the minimum amount of wool would be used for civilian purposes.²⁹⁵ The Government would also go to great lengths to ensure that it, and it alone, was the sole buyer of all of the wool not only in Britain, but also the surplus wool in Australia, New Zealand, and South Africa. The control of the raw wool trade was so swift that by the end of October 1939, the British Government was the sole buyer of all raw wool in the Empire.²⁹⁶

Twelve months before the beginning of the war, the British Government was planning how it would take over control of the international wool industry. Mr. J. F. Murphy, Australian Secretary of Commerce, recalled how he met with representatives of the British Government in 1938 and came to a verbal agreement amongst partners in the Empire that if war was to break out Britain would buy the wool clips of Australia, New Zealand, and South Africa for the duration of the war. In April 1939, the British Government began placing large orders for uniform-grade cloths from fabric suppliers and at the end of August 1939 the Government warned exporters from the Empire not to sell wool to Germany.²⁹⁷

On 1 September 1939, two days before the declaration of war, an order was issued that prohibited all dealings in privately owned wool, in essence freezing the market. This freeze was lifted on 3 September when the Wool Control Order (No. 1) went into effect.²⁹⁸ At this time the Ministry of Supply, through the Wool Control Department,

²⁹⁵ Clothing rationing for civilians began in 1941 and was based on a coupon system. During the war years the coupons allotted to individuals continued to be reduced beginning with 66 coupons per person per year in 1941, 44 coupons in 1942, 36 coupons in 1943, and 24 coupons in 1945. Children were given 20 coupons. One coupon did not equal one article of clothing, but were given values in coupons depending on the amount of fabric used. For example, a man's suit was worth 26 coupons in 1942. Coupons were not in place of money. Consumers were required to pay money as well as coupons when purchasing clothing. Kassondra Lea Hutchings, "Moratorium on Morality: Rationing and the Black Market in Great Britain during and after World War II" (Master's dissertation: University of Arkansas, 2008), 12-13.

²⁹⁶ Briggs, 18.

²⁹⁷ Ibid.

²⁹⁸ Ibid, 19.

took control of all supplies and prices of “wool, tops, broken tops, noils, and combing laps.”²⁹⁹ The order stipulated that manufacturers and spinners were required within five days to report all of the details of their wool consumption and production as well as the details of all of their contracts. In addition, all sales and transfers of wool were now to take place under licence.³⁰⁰

The Wool Control Department was complex and included appointed controllers for both raw materials and manufactured materials. Each part of the wool production process, from clipping the raw material to final clothing production, was under the control of the department.

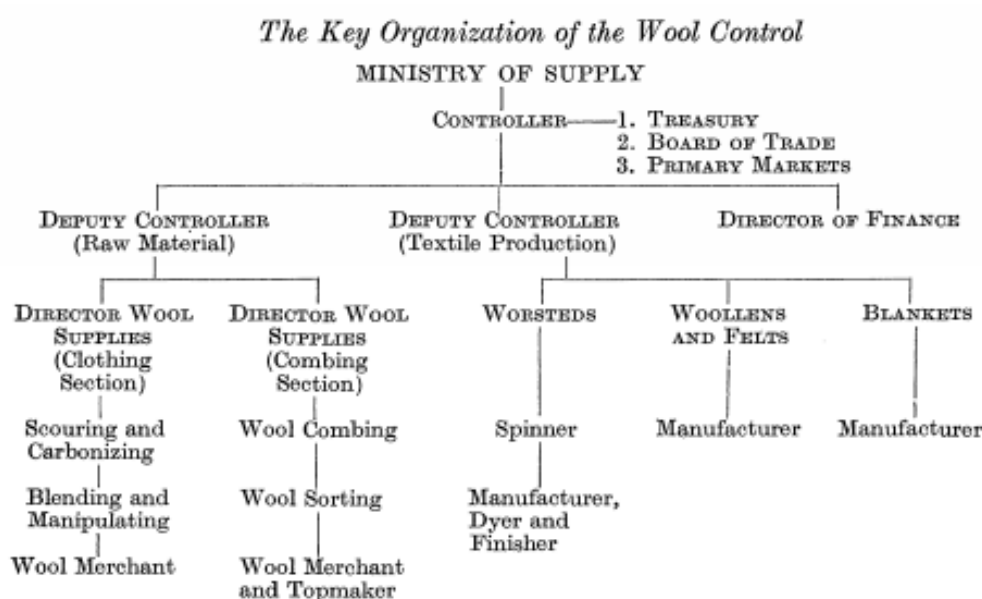


Table 5. Structure of Wool Control from A. Briggs "The Framework of Wool Control" *Oxford Economic Papers* (November 1947), 42.

In addition to the issuing of the first control order, in September 1939 the Wool Control Department contracted to buy the entire exportable surplus of the wool clip from Australia and New Zealand for the “period of the war and one clip thereafter.” This agreement was incredibly important in regard to controlling global wool supply. In 1937-1938 Australia, New Zealand, and South Africa accounted for 80% of the output

²⁹⁹ All of these terms refer to various qualities of wool fibres. Tops are long fibred wool that has been combed by a machine, broken tops are slightly shorter fibres than tops, noils are the short fibres remaining after combing wool, laps are fibres left over from the combing process and are a mix of lengths and diameters. “A to Z of Wool Terminology” World of Wool 2016, accessed 17 October 2016, <http://www.worldofwool.co.uk/know.php>.

³⁰⁰ Briggs, 19.

of the production of surplus wool. By purchasing the supplies of these Dominion countries (Great Britain would come to a similar agreement with South Africa in August 1940³⁰¹) Great Britain was able to gain control over the global wool trade, blocking Germany from acquiring large amounts of the material.³⁰²

The domestic wool clip was acquired with Control of Wool Order (No. 5) of 20 October along with all stocks of raw wool in the country. All imported wool came under Government control with the Control of Wool Order (No. 6 & 7) of 27 October, which gave the Ministry of Supply the ability to purchase all imported wool. With these orders, by the end of October 1939, the Government was the sole buyer and distributor of raw wool in the country.³⁰³

As the Government took over the national and international supply of wool it began to implement a strict rationing system on consumers. On 1 November 1939, 19 months before the Government began its clothing rationing scheme and issuing coupons for clothing purchases,³⁰⁴ it began restricting the production of wool products for domestic consumption. This was done by limiting the production of items for civilian purposes to 10% of its pre-war levels.³⁰⁵

To ensure that no wool was being produced without coming under control of the Government, any person raising sheep in the United Kingdom was required to maintain books about their business and could be requested to present these books for scrutiny and their premises could be inspected at any time.³⁰⁶ Even waste was covered by wool controls. From 1 June 1940 any waste material created as a result of a Government contract or from using Government allotted materials (which at this point was all wool fibres) was considered property of the Ministry of Supply and manufacturers were required to return the material. This prevented manufacturers from acquiring wool waste and using it for civilian production. As a result of these controls,

³⁰¹ Ibid, 24.

³⁰² Ibid, 21.

³⁰³ Bowen and Worswick, 95.

³⁰⁴ Clothing rationing began in June 1941.

³⁰⁵ Bowen and Worswick, 83.

³⁰⁶ Worswick, 23.

from August 1940 the U.K. Wool Control Board owned 96% of the available world supplies of wool.³⁰⁷

In regard to piano manufacturing, the restrictions on the production and ownership of wool made it difficult for piano companies to purchase the necessary supplies. The industries that manufactured wool piano components quickly switched to war production, many manufacturing garments for the military. The piano industry was able to obtain materials if they had a Government licence for the manufacturing of pianos, but otherwise, the industry had to rely on its stocks of materials and wait for the end of the war to resupply.

By restricting raw materials, the Government was able to ensure that critical materials needed for the war effort were directed to war production. The orders worked swiftly and by the end of the first year of the war obtaining raw materials for piano production was only possible through a licence. The limitation on the use of raw materials was devastating to the piano industry but this was just one way that the Government saw to the cessation of piano production. In addition to the limitations placed on raw material use through Control Orders and licensing, the Government would use taxes to prohibit both production and purchasing of pianos, directly limit the production of pianos, and force the industry to consolidate together in order to free labour and factory space. The combination of these multiple approaches to limiting domestic production would result in the complete shutdown of the industry.

³⁰⁷ Ibid, 24-25.

Chapter 4: The Impact of Government Restrictions on Piano Production

During 1938-1939, Britain's economy was considered semi-mobilised. Prior to the declaration of war, the country was trying to maintain a "business first" status quo, which included a voluntary change to war production and an emphasis on rearmament, but no restrictions on materials or labour. This changed with Prime Minister Neville Chamberlain's announcement to the House of Commons on March 24, 1939 that "men and material will be required, and rearmament work must have first priority in the nation's effort. The full and rapid equipment of the nation for self-defence must be its primary aim."³⁰⁸

Although there is urgency in Chamberlain's speech, the need for "men and materials" did not immediately take priority over domestic production and it would not be until 1940 that the restrictions placed on industries throughout the U.K. ensured that the need for materials for war production took precedence over all other types of production.³⁰⁹ During this time products designated as "essential" were exempt from restrictions but pianos, categorised as "luxury" items, received no protection from Government restrictions. Piano companies were part of the total industrial potential of Great Britain and these companies could manufacture the necessary tools to fight the war. To ensure the conversion to war work the piano industry, like all producers of "luxury" items, would encounter crippling material restrictions; be forced to consolidate into joint companies with their competition; lose the majority of their skilled workers to war work; and face well-intentioned tax laws that were meant to spark international trade but instead prevented the industry from reconverting after the war.

³⁰⁸ Postan, 87-88.

³⁰⁹ According to Postan material control was not uniform and some materials were controlled through a voluntary basis. As the need for materials increased, material restrictions tightened, and in the Spring of 1940 it was decided that the semi-voluntary control of raw materials was too disorderly and the Government began to tighten controls through the Board of Trade. Ibid, 90-93.

Prior to Government regulations affecting the production of pianos, the political unrest in continental Europe was having a negative impact on piano sales. M.E. Ricketts of the Chappell Piano Company wrote in the June 1938 *Music Trades Review*:

The lowest production was shortly after the political upheaval and business slump of 1931 and production began to increase again until hit by the general trade uncertainty created by the men of the Continent who are flashing sabres and parading guns.³¹⁰

According to Ricketts, the production of pianos from 1930-1937 was as follows:

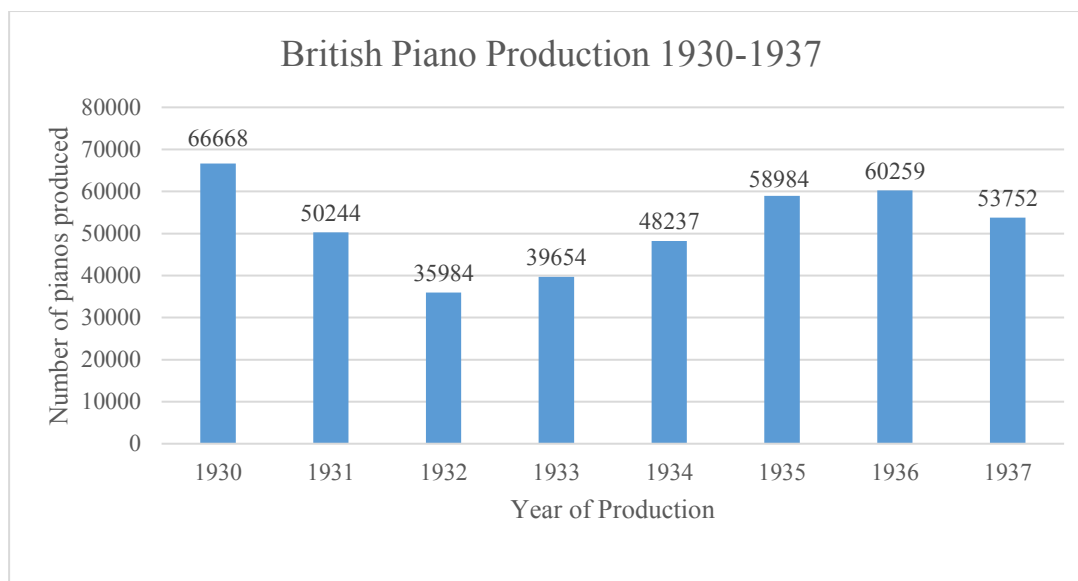


Table 6. Piano production numbers according to M. E. Ricketts of the Chappell Piano Company, *Music Trades Review*, June 1938, 186-190.

The industry's height of production in the 1930s occurred at the beginning of the decade, with 66,668 instruments produced in 1930. By 1932 production had fallen to only 35,984 instruments: a result of the impact of the Great Depression on the British economy.³¹¹ As the British economy recovered, so did piano making with 1936 seeing 60,259 instruments manufactured. But this recovery was to be short lived with production slumping from 1937 onwards.

³¹⁰ M. E. Ricketts, "The Outlook of the Pianos Industry: Paper Prepared by Mr. M. E. Ricketts (Chappell Piano Co)," *Music Trades Review*, June 1938, 186-190.

³¹¹ During the inter-war years, 1932 was the year when Great Britain suffered from the highest unemployment rate at 17%. W. R. Garside, *British Unemployment 1919-1939: A study in public policy*, (Cambridge: Cambridge University Press, 1990), 5.

The situation in Europe continued to impact on piano sales negatively and the industry saw a 30% reduction in sales by October 1938 compared to 1937.³¹² As the possibility of war became more of a reality, the piano industry began to discuss strategies and possible impacts. Eugene Sotheran, editor of the *Music Trades Review*, had a pragmatic view of what the industry could face and even wrote about potential benefits to war, including a demand for pianos. He encouraged the industry to “stock up” for the prospective rise in instrument sales. He wrote:

Let us not forget the lesson of 1914, when the factories were depleted of workmen, supplies were at a minimum and the demand most difficult to meet. During that period any second hand piano commanded a fabulous price, and the creation of Navy and Army canteens throughout the country made big demands upon the piano trade for instruments. We reiterate all this for the benefit of our readers to justify our appeal to keep their stocks up to the maximum, thereby not only protecting their own interests but also safeguarding the economic stability of the trade.³¹³

Although Sotheran wrote of the potential benefit of war on piano sales, the truth of the situation was bleak. Throughout 1937 and 1938 piano sales continued to decline. Although the Munich Crisis of September 1938 gave a reprieve to the imminent outbreak of war, the Munich Agreement did little to help with sales. The political situation throughout Europe was too volatile for consumer confidence to overcome and piano sales and production fell to levels similar to those of the economic crisis of 1930-1932.³¹⁴

In addition to a slump in domestic piano sales and production values, the export trade was also affected. By January 1939 exports to Spain were completely stopped.³¹⁵ Later that same year, the New Zealand Government released a licensing system for importing into their country.³¹⁶ The system stopped all imports of musical instruments into New Zealand during the second half of 1939.³¹⁷ This was a considerable blow to

³¹² Eugene Sotheran, “Action! Action! Action!,” *Music Trades Review*, October 1938, 359.

³¹³ Eugene Sotheran, “Facing the Music,” *Music Trades Review*, September 1938, 323.

³¹⁴ Eugene Sotheran, “Taking Stock,” *Music Trades Review*, December 1938, 439.

³¹⁵ Spain’s political situation and alliance with the Nazi Government made trade with the country difficult. All exports to Spain from Great Britain were stopped at the beginning of 1939.

³¹⁶ The licensing system was established to protect New Zealand industry by restricting items imported into the country.

³¹⁷ “Only Sheet Music in New Zealand,” *Music Trades Review*, May 1939, 137.

the British piano industry, as during the 1930s the export trade to New Zealand had grown substantially to become a considerable portion of the overall export trade. For example, in 1935 exports to New Zealand amounted to 10% of the total British piano exports. By 1936 and 1937 this had grown to 20% of the export trade, and in 1938 New Zealand exports accounted for 22.5% of the total of British piano exports. The ban of piano exports to New Zealand in the second half of 1939 reduced the overall export trade to 13% of the total export value before falling to zero in 1940.³¹⁸

It is evident through the purchases of supplies by the piano industry that many manufacturers heeded Sotheran's advice to "stock up" in preparation for war. One significant indicator of this preparation was a disparity in the number of iron frames produced by iron foundries compared to that of piano actions. The first six months of 1939 witnessed a 20% increase in the production of iron frames but no increase in piano action manufacture. As a piano cannot be built without both components, this discrepancy indicates that piano manufacturers were beginning to stock pile piano parts that would be difficult to obtain during war.³¹⁹ The industry had learned during the First World War that metal was one of the most regulated commodities in wartime, and it behoved them to obtain as many piano frames as possible while they were still available.³²⁰ This planning would enable many manufacturers to continue to assemble pianos for a period even after metal restrictions stopped the supply of materials later in the war.

After the declaration of war on 3 September 1939, the piano industry was not put under any immediate production restrictions. The first impairment to the "business as usual" attitude to the industry was the *Trading with the Enemy Act* of 5 September 1939. This act made it a crime to conduct any business with "the governments of, companies within, or persons residing in any country at war with the United Kingdom."³²¹ Although Britain sold very few pianos to Germany, the industry did import German-

³¹⁸ "Extract from Volume III of the Annual Statement of Trade of the United Kingdom with British Countries and Foreign Countries." BT 64/1786. National Archives.

³¹⁹ It is worth noting that these two parts of pianos were rarely made by the piano maker themselves. They were produced by auxiliary industries: iron foundries and piano action manufacturers.

³²⁰ Captain Evelyn Broadwood, "The Crisis, the Piano and the Trade," *Music Trades Review*, June 1939, 173.

³²¹ *Trading with the Enemy Act, 1939*. 2 & 3 Geo. 6. Ch. 89.

made piano parts, such as wrest pins.³²² The industry also imported wood from areas that would later come under German occupation and thus be cut off from the supply chain.

Although rationing and material restriction were not immediately imposed, it would seem that the industry knew they were imminent. In the *Music Trades Review* and *The Pianomaker*, the prominent trade publications of the industry, articles and editorials printed in 1939 encouraged piano manufacturers to stock up on supplies and for retailers to purchase as many completed instruments as possible – while there was still a chance.

An additional sign of the industry preparing for the effects of war was when the piano manufacturers organised two committees immediately after the declaration of war. These were the Piano Trade War Council, which was formed to regulate price and production during wartime, and the Piano Trade Joint Committee, which was further divided into five sub-committees and dealt with matters relating to timber, metal, general imports (manufactured and unmanufactured), exports, and labour.³²³ The committees quickly jumped into action and the first order of business of the Piano Trade War Council was to raise the price of pianos 10% starting on 2 October 1939.³²⁴ The Council then raised the price an additional 5% starting on 1 November 1939.³²⁵ It was published in the *Music Trades Review* that the increase in piano prices was to protect the interest of piano manufacturers as sales were continuing to decline. This created tension between manufacturers and retailers, as the increased prices did nothing for the retail companies who would have to explain the higher prices to customers.³²⁶

The Piano Trade Joint Committee began collecting data from manufacturers regarding the quantities of raw materials they would need in the upcoming months. According

³²² Wrest pins and tuning pins were not available domestically in Britain. They were made by a small number of manufacturers in Westphalia, Germany, and the makers had a monopoly on their manufacture. Dolge, 128

³²³ "Piano Trade Joint Committee," *Music Trades Review*, September 1939, 299.

³²⁴ "First Piano Trade War Council," *Music Trades Review*, September 1939, 297.

³²⁵ "Further increase in Piano Prices," *Music Trades Review*, October 1939, 317.

³²⁶ In the January 1940 issue of *Music Trades* the magazine refers to the "internal squabbling among the industry" and complaints that the Piano Trade Joint Committee was not acting in the best interest of the entire piano industry. "Piano Trade Joint Committee," *Music Trades Review*, January 1940, 21.

to the *Music Trades Review* the collected information was sent to various committees of the Board of Trade in order to ensure a fair share of the surplus materials would be available for the piano trade. This indicates that although piano manufacturing had not yet been placed under restrictions in October 1939, the availability of raw materials was already a worry to the industry. In particular, the price of many raw materials was rising dramatically. By October 1939 the price of timber had already risen as much as 60% and the metal used in piano cases (such as that used for hinges, pins, and locks) had increased by 70%.³²⁷ These price increases were some of the first indicators of the difficulties to come in regard to obtaining such materials.

According to Eugene Sotheran, “the piano trade was possibly faced with a 60% reduction in their output for 1940. This amount would result in only 20,000 pianos produced.”³²⁸ As the war effort accelerated and as more restrictions were placed on the industry, Sotheran’s estimate of production would prove to be incredibly optimistic.

The declaration of war, Trading with the Enemy Act, and general anti-German sentiment throughout the U.K. prompted one piano maker to change their German sounding name. In December 1939, Blüthner & Co. changed its name to Whelpdale, Maxwell and Codd, Ltd. The firm had been a successful importer of Blüthner pianos³²⁹ but had been manufacturing their own instruments since 1933.³³⁰ According to a press release printed in the *Music Trades Review* the company wanted all to know that:

The necessary permission had been granted by His Majesty’s Board of Trade, and the company will be known in future as WHELPDALE, MAXWELL & CODD, LTD., the offices and showrooms remain at 17-23 Wigmore Street, London. Mr. Whelpdale told me that he and his co-directors were most anxious to clarify their position. The capital of the company is entirely British, as also are its directors and employees. Further, the late Mr. W. M. Maxwell, who founded the business in 1876, and the late Mr. W. J. Whelpdale, the father of the present director of that name, who joined Mr. Maxwell in partnership in 1889, were of British birth and descent. The company will continue to manufacture and market the well-known Welmar pianos, which have gained such an amazing popularity in recent years. Mr. Codd is on full-time National

³²⁷ “Further increase in Piano Prices,” *Music Trades Review*, October 1939, 317.

³²⁸ Eugene Sotheran, “Piano Trade Meeting: General Situation Reviewed,” *Music Trades Review*, November 1939, 331.

³²⁹ The company was forced to end any importation of Blüthner instruments as a result of the *Trading with the Enemy Act* of September 1939.

³³⁰ “A History of the Piano, 1157-2015,” accessed 9 August 2016. https://www.piano-tuners.org/history/history_1.html.

Service, and we might mention Mr. A. W. Whelpdale served in the last war as a captain in the Royal Artillery, and was mentioned in dispatches.³³¹

This change of name is indicative of the tension felt throughout the country.

Government Ministries and their Role in the Piano Trade

In 1940, the laws and restrictions passed by the government of the United Kingdom began to have a larger impact on the piano industry. Before investigating the various laws and restrictions that affected piano construction, it is important to review which ministries of the war government would have a direct impact on piano production.

As discussed in previous chapters, the infrastructure of the British war machine was extensive. The Government oversaw everything from airplane, tank, and ship production to clothing, furniture, and children's toy manufacture. A significant portion of this regulation was through the control of the raw materials that went into everyday manufacturing and the control and movement of the labour needed for war production. For every product produced in the U.K. there were numerous ministries and boards controlling the minutest detail of manufacture.

In the case of the piano industry the influencing agencies were the Board of Trade, which had overall control of piano production. The piano industry reported to the Board of Trade throughout the war. This organisation granted licences for manufacture, controlled production quotas, and could help the piano industry receive Government contracts for piano manufacturing. The Ministry of Supply coordinated the supply of equipment to all three British armed forces. Because of the vast resources needed to fight the war, this ministry controlled the release of raw materials to ensure these materials went to war production. The ministry determined who received which materials, how much, and when. Additionally, the Ministry of Labour and National Service saw to the demands for labour. This organisation was responsible not only for military recruitment and deferment, but also for supplying labour to the necessary factories supporting the war effort. The ministry influenced which industries were to be shut down in order for the labour to be transferred to war work.

³³¹ "Re Blüthner & Co. Change of Name but No Change in Management," *Music Trades Review*, December 1939, 357.

In addition to organisations that were restrictive to the industry, there were also government agencies that benefitted the piano industry through contracting companies for war work. Some of the work was for piano production, but the majority of the work required the industry to change to war production. These included the Admiralty, the Directorate of Woodworking, and the Navy, Army and Air Force Institutes (N.A.A.F.I.).

Although no direct law had been passed limiting the manufacture of pianos, the industry was under the complete control of the Board of Trade and the Ministry of Supply by January 1940. This control was established through the supply of raw materials which was allotted based on the needs for war production.³³² A way piano manufacturers were able to ensure they could obtain raw materials was if the pianos produced using the raw materials were being sold to export markets. The Board of Trade made special concessions for this type of manufacturing as it brought much needed cash into Britain.³³³

The Excess Profits Tax and the Purchase Tax

Tax was an important source of revenue for the British Government throughout the war period. Two different taxes were put in place that affected piano production and sales. The first was the Excess Profits Tax. This was an attempt to stop wartime profiteering and price gouging by firms through taxing profits in excess of peacetime levels. Initially set at a rate of 60%, it was raised to 100% in March 1940.³³⁴ The 100% tax was applied to any profits a company made on non-war related production, but made exemptions for any item sold for export trade.³³⁵ In addition to preventing profiteering during war time, the tax was enacted to encourage manufacturers to switch to war production.

The exemptions of the tax on export trade encouraged the piano industry to shift its emphasis on expanding its export trade. In addition, exported products were exempt

³³² "Piano Trade Joint Committee" *Music Trades Review*, January 1940, 21.

³³³ Eugene Sotheran, "Export More Pianos" *Music Trades Review*, February 1940, 23.

³³⁴ The Excess Profits Tax had been issued in 1939 and set the tax rate at 60%. [Finance No. 2 Act, 1939 (2 & 3 Geo. 6 c. 109)]. Ashworth, 84.

³³⁵ Finance Act, 1940 (3 & 4 Geo. 6 c.29).

from material quotas at the time. Unfortunately, due to trade embargoes and uncertain shipping routes caused by German submarines sinking merchant ships, there was no guarantee that products would be able to leave the country or ever reach their destination. To make matters worse, the Limitation of Supplies Order of 1940 would directly limit the number of pianos that the already struggling industry was able to manufacture.

The second significant tax that was levied on piano manufacturers was the Purchase Tax. Initially proposed in May 1940 but met with resistance, the Purchase Tax went into effect in October 1940.³³⁶ The initial tax was set at a flat rate of 33⅓% of the retail value of an item deemed as luxury goods (such as musical instruments) sold in the United Kingdom. The purpose of this tax was to manipulate the buying power of consumers and to collect revenue from purchases that were deemed unnecessary by the U.K. government. Although the production and manufacture of every consumer item was controlled by the U.K. Government, the national income was on the rise and the British people had money to spend on consumer goods. By putting a tax on luxury items, the Government could deter consumers from purchasing items that might seem frivolous with the added Purchase Tax while simultaneously reaping the benefits of consumers who were willing to pay the extra money for the item.³³⁷ It is worth noting that items fitting within the Utility Programme of 1942 were exempt from this tax, as were items sold as export.³³⁸ This helped to steer consumers to purchasing Utility Programmes products.

Included in the tax were a number of rules regulating the trade of materials within the manufacturing sector and important definitions which impacted piano trade (for a transcript of the law, see Appendix 5). Firstly, the tax applied only to firms making more than £2,000 a year in profit and companies making less were exempt.³³⁹ The manufacturers who were subject to the tax were able to sell materials to one another without paying the tax if the materials were being used in the production of other items.

³³⁶ Arnold M. Soloway, "Economic Aspects of the British Purchase Tax," *The Journal of Finance* 9:2 (May 1954): 189.

³³⁷ *Ibid.*, 191.

³³⁸ This included clothes, shoes, and furniture produced according to specifications by the Board of Trade. *Ibid.*, 190.

³³⁹ The tax states that this was subject to change. Later in the war the minimum amount of profit needed to have the tax applied to a firm would drop to only £500.

This allowed manufacturers to sell stock to each other, such as timber supplies or iron frame, without being penalised with the tax. Companies with excess stock, switching to war production, or who were shutting down their factories were able to liquidate their supplies through this stipulation.

Items and services that were exempt from the tax included repair work, second hand instruments, and any goods sold through export. The export exemption encouraged manufacturers to focus on exporting goods, which was a way to bring in much needed revenue into the country. Conversely, manufacturers purchasing imported goods were charged the tax, but the tax was not chargeable until it reached the factory, a condition that protected manufacturers from paying tax on items that were lost at sea or destroyed while in storage or transit.

The tax was to take effect in March 1940, but if goods were delivered on or before the operation date the tax would not apply and existing stocks in the hands of the retailers would not be retroactively charged the tax. Interestingly, the tax stated that if firms were seen to ship an extraordinary amount of products to retailers of their own business before the operation date, which was not in accordance to their typical sales, taxes may be charged. The tax was applied when the product was transferred from factory to retail shop or when a manufacturer or wholesaler sold goods directly to the public. Finally, manufacturers were given a period of time to raise the price of pianos to adjust for the tax but any other changes in the price were subject to scrutiny.³⁴⁰

In April 1942 the Purchase Tax was increased to 66⅔% and then one year later, in April 1943, the tax was increased to 100%. The dramatic increase in the tax rate helped to balance the needs of controls versus the desire to raise revenue. Whenever a consumer decided not to buy a luxury good because of the high price caused by the Purchase Tax, it helped to control the restrictions of needed materials for the war effort. If a consumer did have enough revenue to pay the exorbitant price on a luxury items, it meant that needed revenue was going to the war effort.³⁴¹

The Purchase Tax, although bringing much needed revenue to the British government, was detrimental to the piano industry. Already faced with increased prices because of

³⁴⁰ "Purchase Tax Details Issued" *Music Trades Review*, August 1940, 151.

³⁴¹ Soloway, 191.

the Excess Profit Tax, the Purchase Tax made the price of a piano unaffordable to most consumers. The dramatic price increases, combined with the restrictions placed on the supply of raw materials, were enough to close many manufacturing companies.³⁴²

The Limitation of Supplies Order

In 1940 the U.K. was faced with a consumer dilemma. Although the country had increased its war production in the previous two years, many industries were still manufacturing goods intended for the domestic market and using vital materials in the process. The Government needed to reduce the supply of goods available to civilians in order to ensure that materials were diverted to the war effort. To do this, the Government took over ownership of raw materials (thus controlling their distribution), controlled food supplies through the Ministry of Food, and enacted the Limitation of Supplies Order.

The Limitation of Supplies Order restricted the overall quantity of most non-food consumer goods manufacturers and wholesalers could sell to retailers. The main objective of the order was to divert raw materials, plant, capacity, and labour from the production of goods for the home trade to the production of goods vital for the war effort. It also granted exemptions for goods that would be sold as export.³⁴³ The orders were necessary because although the U.K. had natural resources of raw materials, factories, and labour, the amount in the country would not be sufficient to maintain war production and civilian production simultaneously. War production materials, such as munitions, aircraft production, tank production, etc., were the priority and thus took precedence over civilian goods.³⁴⁴ The raw materials needed for the war effort and used by the piano industry consisted of steel, iron castings, timber, and felt.³⁴⁵

³⁴² The number of piano manufacturers who were counted by the Board of Trade in the First Census of September 1940 was just 22. Of these, eleven of the firms employed fewer than ten workers and four had no workers. At this time many of these companies had already stopped manufacturing pianos and were relying on repair work. *Board of Trade First Census*, November 1940. BT 64/1786. National Archives.

³⁴³ E. R. Hawkins, "Factors Influencing the General Movements in Prices of Great Britain," *Survey of Current Business*, December 1941, 13.

³⁴⁴ "Limitation of Supplies: Steps Taken to Assist Bombed Wholesalers and Retailers" *Music Trades Review*, January 1941, 13.

³⁴⁵ *Memorandum A – Factual Survey*, March 1942. BT 64/1786. National Archives.

The first Limitation of Supply Order, issued on June 1940, included restrictions of musical instrument production. Additional products covered in the Order included: clothing, toys, office appliances, cosmetics and toilet preparations, carpeting, pottery, luggage, cameras, jewellery, vacuum cleaners, refrigerators, washing machines, wringers, lawn mowers, dishwashers, metal furniture, furniture made of cane or wicker, mattresses, and other household goods.³⁴⁶

The order restricted the sales of pianos during the period of June 6 to November 30 1940 to two thirds of the value of goods supplied in a designated time period. The base figure of sales was based on the value of pianos sold from 1 June to 30 November 1939.³⁴⁷ (For a transcription of the order as printed in the *Music Trades Review* see Appendix 4.) In addition to the restriction of manufacturing, the order required firms to register with the Board of Trade, defined the roles of wholesaler and dealer, and outlined what types of sales and trade were exempt from the restrictions. These details are as follows.

Under this stipulation producers and wholesalers:

- needed to register with the Board of Trade as “controlled suppliers”;
- could sell to any retailer or customer as long as the sales fell within the restricted sales quota.

Some items and types of trade were unregulated. This included:

- any class of controlled goods could be sold to another person or company listed on the Controlled Suppliers list; this allowed piano companies to sell their completed stock to each other;
- goods required for completing government contracts (this did not include goods sold to local authorities);
- goods being made for the overseas markets.

³⁴⁶ Hawkins, 13.

³⁴⁷ As an example, if a piano manufacturer had sold a total of £100,000 worth of pianos to retailers during the June 1 – November 30 1939 period, that manufacturer could now only sell £66,666 worth of pianos from June 6 – November 30, 1940.

The government gave a formula for calculating what the production value would be for the controlled goods:

- (a) ascertain the total value thereof as invoiced to customers in the period from June 1 to November 30, 1939;
- (b) subtract from that total the value of those supplies which are unrestricted;
- (c) subtract the amount of any discounts (including cash discounts), commissions or allowances to buyers and of any delivery charges applicable to the remaining supplies;
- (d) from the net total subtract one-third.

In the order, wholesalers and manufacturers were encouraged to store their goods at retail establishments. As bombing raids were focusing on industrial areas, manufacturers were encouraged to spread out their finished products in smaller establishments to avoid substantial losses from bombing.³⁴⁸

In November 1940, the Board of Trade set new production limits for the period commencing December 1 to May 31, 1941. The new limit put piano manufacturing at 25% of the output for the corresponding period 1939-1940. This significant reduction saw piano manufacturing limited from a one-third reduction in March 1940 to a 75% reduction nine months later. According to Eugene Sotheran this reduction would result in “the closing down of nearly all, if not all, of the 40 piano factories in this country.”³⁴⁹ The effect of the Limitation Orders was even more severe, by January 1941 the industry was reporting that it was only producing 15% of the normal output and that the “piano trade has been slaughtered by the B.O.T.”³⁵⁰

It was estimated that the Limitation of Supply Orders reduced the volume of consumer goods available to the U.K. public by 20% in the first quarter of 1941 and by 50% that summer.³⁵¹ Although very successful in reducing production, the Limitation Orders did not stop all piano production. Technically, as long as companies had materials and stocks in their factories, they could continue to produce instruments. That said, piano

³⁴⁸ “Limitation of Supplies: Steps Taken to Assist Bombed Wholesalers and Retailers” *Music Trades Review*, January 1941, 13.

³⁴⁹ Eugene Sutheran, “The Case for Exemption,” *Music Trades Review*, November 1940, 203.

³⁵⁰ Eugene Sutheran, “Piano Trade Meeting,” *Music Trades Review*, January 1941, 1.

³⁵¹ Hawkins, 14.

production for the consumer market had all but stopped as the 100% Purchase Tax made pianos unaffordable to all but the wealthiest clientele. According to Denzil Jacobs, an employee and future manager of the Kemble Piano Company, “most piano manufacturing stopped in 1940 unless the company had a store of materials from before the war.”³⁵²

The Limitation of Supplies Orders were being used not only to transfer raw materials from consumer production to war production, but also to release labour to the war effort. It was believed that as companies reduced production, employees would be released and labour would transfer to essential work. The Limitation of Supplies Orders did have this impact, but the amount of labour released through the orders was not enough to fulfil essential war work requirements. In order to satisfy the demand on labour the Concentration of Industry scheme was issued.³⁵³ The scheme would make rivals and competitors join together, albeit unwillingly, under one roof.

The Concentration of Industry Scheme

The Concentration of Industry scheme was issued in March 1941. The scheme required non-essential industries, such as piano companies, who did not have war contracts to consolidate with their competitors and then to release unused factory space and workers for essential war work.

Consolidating companies was not an easy task. In addition to proprietary concerns from the piano companies, there were the logistics of combining independent businesses, deciding which factory other companies would move in to, and how multiple companies would work together. To aid companies in determining these logistical difficulties, the Board of Trade issued guidelines on how to consolidate.

Firstly, a company had to determine if it could apply to be considered a “nucleus firm.” Nucleus firm was the designation given to the company that would become the main, or leading company, in a consolidated scheme. This company would retain its factory

³⁵² Denzil Jacobs, former director of Kemble and Company, interview by author, 02 May 2012, London, phone conversation.

³⁵³ Postan, 148.

and would absorb other firms in some fashion. This was done by having the nucleus firm purchase the raw materials ration from the absorbed firm, by physically carrying the machinery of the absorbed firm into the nucleus and transferring remaining employees, or through outright purchase of the absorbed firm depending on the circumstances.³⁵⁴

In order to be eligible to become a nucleus firm and have other industries consolidate within it, a company was required to:

1. find the average monthly production during the period June to November 1939;
2. find the current monthly production (on any work whatsoever, not just piano production);
3. if production under (1) was £10,000 and production under (2) was £5,000 then a further production of at least £5,000 was necessary before a condition of “running full” had been achieved;
4. make arrangements with another firm or firms to take over its (or their) production to the extent of at least £5,000;
5. arrange for closing the factory or factories of the firms the trade of which has been taken over;
6. arrange for the plant of the closed firm to be kept intact unless the premises should be requisitioned;
7. arrange for maintenance by the surviving unit of the production for export and the government of the closed firm;
8. apply to the Board for approval of scheme and give details of arrangements;
9. if a firm had two factories, the company could close down one of the factories in order for them to be considered “running full.”³⁵⁵

Firms who were considered to be “running full” because of government and export work were deemed as first in line to be considered as nucleus firms, but did not need to concentrate if not desired. Small firms who employed fewer than 20 men and did not make more than £2,000 profit per year did not need to apply for recognition as

³⁵⁴ Geoffrey Mills and Hugh Rockoff, “Compliance with Price Controls in the United States and the United Kingdom During World War II,” *The Journal of Economic History* 47:1 (March 1987): 208.

³⁵⁵ S. A. Hurren. “Pianoforte Export Group” *Music Trades Review*, March 1941, 41.

“nucleus firms.” The firms were encouraged to combine with other firms but if they decided not to follow through with concentration, they would not be penalised in any way.³⁵⁶

The purpose of the Concentration of Industries Scheme was to reduce, as far as possible, the number of men and factories involved in the production of non-essential items, so that labour and buildings could become available for urgent production, such as munitions work. According to S. A. Hurren, the secretary of the Pianoforte Export Group:

...too many companies were teetering on the verge of collapse and were waiting in hopes of securing government work. By forcing companies to consolidate, then these firms could be closed down, labour released and factories turned to war production, rather than the firms holding on in hopes of orders that might never come.³⁵⁷

Through the Concentration of Industries Scheme, many smaller piano companies, or companies that did not have any or enough government work to be granted nucleus status, approached larger firms or those with war contracts, in order to concentrate. The scheme allowed the unsuccessful firms to close their factories, release labour, but not declare insolvency – in essence it allowed the firms to suspend business until the end of the war. Examples of this type of concentration include the companies that approached Whelpdale, Maxwell & Codd Ltd. in order to concentrate.

Whelpdale, Maxwell & Codd, Ltd. easily fitted the criteria to be considered a nucleus firm. The firm had an overall turnover of £26,254 in June to December 1939, far more than the requirement. In addition, the firm was able to maintain an export trade to Argentina, South Africa, and New Zealand (until that country banned piano imports) throughout 1939-1941. The company was approached by John Broadwood & Sons Ltd., George Rogers & Son, Sir Herbert Marshall & Sons, Ltd., and Vincent Manufacturing Co. Ltd. with the proposal of consolidating. Whelpdale made the application to the Board of Trade and was granted nucleus status in June 1941. The

³⁵⁶ According to Denzil Jacobs, this scheme was “voluntary.” He said in actuality it was mandatory to volunteer, otherwise a company would be taxed on keeping the factory while it was idle. Denzil Jacobs, interview.

³⁵⁷ S. A. Hurren. “Pianoforte Export Group” *Music Trades Review*, March 1941, 41.

other piano firms closed down their factories and moved their remaining employees to the factory of Whelpdale, Maxwell and Codd, Ltd.

Other examples of consolidated piano companies included:

1. Alfred Knight (nucleus firm) consolidated with Alfred Taylor (factory closed) and Leswein Piano Ltd (factory closed);
2. Brasted Brothers (nucleus firm) consolidated with Hulbert & Jones (factory closed) and Danemann & Co. (factory closed);
3. Chappell Piano Co. Ltd. (nucleus firm) consolidated with J. B. Cramer and Co., (factory closed) and John Spencer & Co (factory closed);
4. Kemble & Co. Ltd. (nucleus firm) consolidated with Buckland & Co. Ltd (factory closed) and King Bros. Pianos Ltd. (factory closed);
5. Monington & Weston (nucleus firm) consolidated with Warwick Piano Company (factory closed);
6. Triumph Auto Pianos (nucleus firm) consolidated with A. W. Lee (factory closed) and Fleet Piano Company (factory closed).³⁵⁸

Although the piano industry cooperated with the Board of Trade in consolidating the industry, they were not happy. Writing in the *Music Trades Review* Eugene Sotheran summed up the feelings of many of the members of the industry in regards to this government initiative. He stated that with the Consolidation of Industry Scheme the government would:

...close down the “small man” and he is forever lost to the industry. For a mere consideration he hands over the names of his customers and his trade marks to his to one-time competitor; he has to reveal his methods of trading to his rival. The lucky firms who have been selected as “nucleus” establishments will be armed with all this invaluable data when peace returns and Government control is lifted. How can the unfortunate devil who has been “axed” hope to start again with the odds so heavily against him?³⁵⁹

To add insult to injury and under the auspices of facilitating cooperative working between the companies in consolidated factories, the Board of Trade recommended

³⁵⁸ Factual Survey of the Piano Industry. Appendix B. March 1942. BT 64/1786. National Archives.

³⁵⁹ Eugene Sotheran, “The Regimentation of the Industry,” *Music Trades Review*, May 1941, 71.

that the piano industry standardise the production of pianos with just one standard instrument produced for each grade.³⁶⁰ Included in this proposal was the idea to brand all standardised instruments with the logo of St George and the Dragon. The piano industry decided to reject this suggestion, citing that piano design was proprietary and that each firm wished to continue to maintain their own designs or not produce instruments at all.³⁶¹

The Concentration of Industry Scheme was detrimental to many of the piano companies. Nevertheless, the scheme enabled companies to close down their factories and release workers without having to declare insolvency. All in all, the Concentration of Industry Scheme, according to the Federation of British Industries, released 255,900 workers and 61.2 million square feet of capacity for munitions and related industries. Many luxury goods manufacturers, like the piano industry, had to close their doors, but the overall results were beneficial to the war effort.

In April 1941, companies that had 80% of their sales or output going to Government or export sales during the period of January through March 1941 were invited by the Board of Trade to apply to become a “protected” establishment. A protected firm was one in which the labour employed at that industry would not be transferred to other work as long as the company maintained this designation. Keeping labour in factories was important to the industry and those that were labelled as such had the backing of the Ministry of Labour and National Service to help them prevent the undesirable transfer of essential labour to other firms or munitions work.³⁶² Having the designation of a protected firm also helped companies receive additional war work and contracts. The designation acted like an endorsement from the U.K. government signalling that the protected firm was reliable and would be able to fulfil contracts.

Although the invitation to apply for protection status seemed like a welcome designation for the piano industry, it was another way for the Board of Trade to shut

³⁶⁰ The grades of pianos at the time included miniature pianos, upright pianos, and grand pianos. This idea fitted within the Utility Scheme, which regulated everything from furniture design to clothing available during the war.

³⁶¹ S. A. Hurren, “Pianoforte Export Group: Report on Executive Committee meeting held on April 16, 1941.” *Music Trades Review*, April 1941, 57.

³⁶² S. A. Hurren, “Pianoforte Export Group: Report on Executive Committee meeting held on April 16, 1941.” *Music Trades Review*, April 1941, 57.

down the piano firms that had not been able to secure war production contracts. According to the *Music Trades Review* after the applications were made, only seven companies were granted protection status.³⁶³ Unfortunately the *Music Trades Review* does not list which seven companies were given this designation. By reviewing the records of export trade and war production during the war period found in the Board of Trade documents at the National Archives, a potential list of protected piano firms can be extracted. These companies are:

1. Alfred Knight,
2. Brasted Brothers,
3. Chappell,
4. Kemble,
5. Monington & Weston,
6. Supertone,
7. Whelpdale, Maxwell & Codd.³⁶⁴

What did this mean to the remaining 30 piano manufacturers in Britain?³⁶⁵ According to the *Music Trades Review*, all other piano makers had to shut down.³⁶⁶

Supertone Pianos is an interesting example of a protected company. This piano manufacturer was unusual as it was located in Nottingham, England and is one of only two piano companies located outside of London (Stroud Piano being the second). Its location prevented the firm from concentrating with other piano firms. Rather than needing to concentrate with another piano company Supertone was able to secure extensive war contracts. According to documents in the Board of Trade papers preserved at the National Archives, in April 1941, Supertone had £3,192 in government orders for products other than pianos. In May 1941, this order had

³⁶³ Eugene Sotheran, "The Axe Falls," *The Music Trades*, July 1941, 105.

³⁶⁴ Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order. July 1942. BT 64/1786. National Archives.

³⁶⁵ In an article in *Music Trades Review* it is noted that there were roughly 30 piano manufacturers in 1941. Eugene Sotheran, "The Music Industries at War," *Music Trades Review*, September 1941, 137. This number is at odds with documents at the National Archives which state in November 1940 there were only 23 firms engaged in the "manufacture" of pianos. It is also noted that manufacture meant little more than repair. Board of Trade First Census. November 1940. BT 64/1784. National Archives.

³⁶⁶ Eugene Sotheran, "The Axe Falls," *Music Trades Review*, July 1941, 105.

increased to £5,300 and by June of the same year it more than doubled to £13,966³⁶⁷ in government orders for products other than pianos.³⁶⁸ These orders enabled Supertone to receive protected status. The firm was able to maintain a workforce of 270 employees (only three of which were working on piano-related work) at the time of the Census of Manufacturers report issued in 1942.³⁶⁹

Export Trade

The Excess Profit Tax and the Purchase Tax contained exemptions for items exported out of the United Kingdom. These exemptions were in place to encourage companies to sell items to foreign markets. In addition to the exemptions in the Excess Profit Tax and the Purchase Tax on exported goods, items sold overseas were unregulated in the Limitation of Supplies Order. From 1939 to 1941, the British government strongly encouraged luxury goods manufacturers to focus on selling their products outside the U.K as these sales would bring in much needed revenue into the country. In March 1940, Sotheran wrote:

Government attaches the greatest importance to the development of overseas trade and if licences are to be obtained for the supply of necessary raw materials the piano industry will have to convince the Government that the major part of the supplies are required to meet the demands of purchasers from abroad.³⁷⁰

For their part, the piano industry did attempt to increase overseas sales. The Pianoforte Industries and Export Group helped the industry secure materials for production of pianos for export markets and acted on behalf of the industry at meetings with the Board of Trade. In the Board of Trade papers at the National Archives there are numerous letters from S. A. Hurren fighting for the piano industry. This correspondence gives a good indication of the types of difficulty facing the industry

³⁶⁷ When adjusted for inflation these amounts adjust to £145,350, £241,339, and £635,952 in today's money according to the Bank of England inflation calculator. "Inflation Calculator," accessed 03 March 2016, <http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/>

³⁶⁸ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order," Board of Trade Post War Re-Construction Pianoforte Industry. June 1941. BT 64/1784. National Archives.

³⁶⁹ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order," Board of Trade Post War Re-Construction Pianoforte Industry. July 1942. BT 64/1784. National Archives.

³⁷⁰ Eugene Sotheran, "The Future of the Piano Industry" *Music Trades Review*, March 1940, 45.

even when it came to exporting instruments. Chiefly among them was that piano firms had many orders on hand for pianos for export, but not enough materials or labour to complete the orders. Later, as overseas trade become increasingly difficult, the industry complained about the lack of export licences.

Although the Board of Trade and the *Music Trades Review* encouraged the industry to increase their exports of pianos, this was not an easy task. Piano production for export may have been exempt from taxes and the Limitation of Supplies Orders, but it was not exempt from the difficulty the industry faced in procuring restricted materials, maintaining a labour force, and securing export licences for pianos. In addition, with most of the world involved in the war, there was little market for British pianos.

Prior to the war, piano exports were rising. Although not a large portion of the overall piano trade, the industry increased exports from 4.86% of the total production in 1935 to 5.23% in 1936 and then to 7.37% of the total trade in 1937.³⁷¹ The trend of the rising export business ended in 1937, when the industry shipped £117,172 worth of pianos outside the United Kingdom. After this year, overall export value began to decline, with 1938 having £107,371 worth of pianos exported and in 1939 this dropped to £100,973.³⁷²

Unfortunately, records of the export trade for 1940-1942 are incomplete. Although the Board of Trade received reports from the industry, the reports are sporadic and do not show the cumulative total for the years, thus, it is not possible to calculate the total sum of exports for these years.³⁷³ But, by studying the reports, it is possible to see the trends in export manufacturing over time.

The piano industry was requested by the Board of Trade to submit the value of their export business in late 1941 or early 1942 for the creation of a “Factual Survey”

³⁷¹ These figures are compiled from “Appendix A” of the 1942 report compiled by The Pianoforte Manufacturers’ Association Ltd. BT 64/1786. National Archives, as well as the overall production figures as given in *Music Trade Review* June 1938. Unfortunately, the *Music Trade Review* only lists production values through 1937 so the percentage of the export trade in comparison to overall production is not able to be configured for 1938 and 1939.

³⁷² Export production values found in the “Extract from Volume III of the Annual Statement of Trade of the United Kingdom with British Countries and Foreign Countries” undated. BT 64/1784. National Archives.

³⁷³ The records include reports from September 1940, April 1941, May 1941, June 1941, August-September 1941, and March-May 1942. After May 1942 piano production was stopped. Production reports can be found in BT 64/1784. National Archives.

circulated in March 1942.³⁷⁴ In this report only nine piano firms (Brasted Brothers Ltd., Broadwood & Sons Ltd., C. H. Challen and Sons, Ltd., J. B. Cramer and Company, Kemble & Company, Ltd., Alfred Knight Ltd., Monington & Weston, Ltd., A. Taylor & Sons, Ltd., Whelpdale, Maxwell & Codd, Ltd.) reported the value of their trade. It is unknown if more firms were engaged in exporting pianos but chose not to report. Unfortunately, like the other production reports in the files of the Board of Trade, the reporting is inconsistent. Some firms reported on the entire value of their export business for the years 1939 and 1940, while others only reported partial production values, such as Cramer which reported export turnover for June to December 1939, June to December 1940, and January to May 1941. Whether the firm was shut down during the winter months of 1940 is unknown. Another firm, Chappell Piano Company, sent a letter to the Board of Trade stating that “they were entirely engaged on export trade” but did not send any numbers to back up their claim.

Even though the reports are incomplete, they are a good source of information regarding who was receiving the majority of the export orders. Kemble & Company had the largest export sales in 1939. The company reported that they exported £11,836 worth of pianos in that year. In a note in the report it stated that Kemble was the firm with the largest export trade of pianos in the United Kingdom. Of the other companies, Whelpdale Maxwell & Codd, Ltd. exported £8,018 worth of pianos in 1939, Brasted Brothers reported £6,745, Monington & Weston, Ltd. reported £6,243, Challen & Sons, Ltd. reported £6,118, Broadwood & Sons, Ltd. reported £6,068, Cramer & Co. reported £2,564, Knight & Co. reported £2,000 in 1939, and Taylor & Son Ltd. reported a mere £610 in exports for both 1939 and 1940.³⁷⁵ Overall, these companies reported £52,202 worth of pianos exported out of the U.K in 1939.³⁷⁶ The companies

³⁷⁴ This report was compiled prior to a meeting between the Board of Trade, the Pianoforte Export Group, and the Pianoforte Manufacturers' Association. The meeting was arranged in order to discuss the post war problems of the trade. The B.O.T. wanted to know the value of exports of the piano trade in order to understand how to restart the industry after the war. The meeting took place on 30 July 1942.

³⁷⁵ “Appendix B of the Memorandum A – Factual Survey,” March 1942. BT 64/1786. National Archives.

³⁷⁶ This total does not match the value of exported pianos listed in the “Extract from Volume III of the Annual Statement of Trade of the United Kingdom with British Countries and Foreign Countries” indicating that the reporting happening to the Board of Trade was not complete. The annual survey stated that there was £100,973 worth of pianos exported in 1939, not £52,202 as indicated in the Appendix B of the Board of Trade Papers.

reported that they exported to Africa, Argentina, Australia, the British West Indies, Ceylon, Holland, Iceland, India, Iraq, Malaya, New Zealand, South Africa, South America, and the U.S.A.³⁷⁷

As previously mentioned, the reporting for 1940 is incomplete, so much so that it is difficult to make definitive statements in regard to trends of export business. The nine companies that reported export values for 1940 reported a total value of £28,629. This loss in export trade is most likely indicative of a downturn in manufacturing for export, possibly caused by the difficulty in obtaining materials for the production of pianos and the loss of production due to labour movement, or it could be the result of incomplete reporting.³⁷⁸

The Board of Trade received three reports on the export of pianos for 1941 as part of the “Census of Manufacturers Registered under the Limitation of Supplies.” These included the figures for April, May, and then a combined report for August/September. As these were the only reports for 1941 in the papers of the Board of Trade, one might assume that the industry was only asked to submit information for these manufacturing periods, but that information is unclear. Although the reports do not give a complete picture of the export trade for 1941, it does show a rise in exports from April 1941 to May 1941. The industry reported £6,292 worth of pianos exported in April and then £9,060 in May. The combined export total for August and September was £14,064. As there is no information as to how these exports were divided between the two months, there is no way to know if the rise in export trade continued in August and then sharply declined, or if the trade was more evenly distributed between the two months.³⁷⁹

Interestingly, the May 1941 report included the ‘Orders on Hand’ for June 1941. According to this report the piano industry had orders for £67,603 worth of pianos for

³⁷⁷ Brasted Brothers reported that they exported to Africa but did not elaborate as to with which country they traded. Knight made a similar report with instruments going to South America. The British West Indies are now the British Overseas Territories in the Caribbean, Anguilla, Bermuda, the Cayman Islands, Turks and Caicos Islands, and Montserrat. Ceylon was the current name of Sri Lanka. “Appendix B of the Memorandum A – Factual Survey,” March 1942. BT 64/1786. National Archives.

³⁷⁸ “Appendix B of the Memorandum A – Factual Survey,” March 1942. BT 64/1786. National Archives.

³⁷⁹ “Census of Manufacturers Registered under the Limitation of Supplies (Miscellaneous Order),” April 1941, May 1941, and September 1941. BT 64/1786. National Archives.

the export trade. This number is more than ten times the value of the instruments that were sold for export in May 1941. Although there are always more orders on hand than sales, mainly due to the length of manufacturing time, this significant discrepancy between the value of the orders on hand and the actual output of export sales is a result of the industry's inability to acquire materials because of government restrictions.³⁸⁰ The lack of materials was so great that in November 1941 all piano dealers and makers had to put a disclaimer in their advertising which read: "The fact that goods made of raw materials in short supply owing to war conditions are advertised in this magazine should not be taken as an indication that they are necessarily available for export."³⁸¹

Although by the beginning of 1942 piano manufacturing for export was not a major industry, the manufacturing of these instruments was also put under restriction in January 1942 with The Export of Goods (Control) Order No. 4 (S.R. & O., 1942, No. 68). This order required piano manufacturers and action makers to obtain a licence before they could export any of their goods abroad.³⁸² Furthermore, in January of that year British makers were banned from shipping any instrument made partially or wholly of any non-ferrous metals anywhere in the Western hemisphere under the Lend- Lease Agreement.³⁸³ The copper used in the bass strings of pianos and in brass hinges meant that pianos were included in this restriction.

In April 1942, manufacturing pianos for export came to an end when the industry was notified in the *Music Trades Review* that it would no longer receive export licences. The notification read:

The Industrial Supplies Department requested to notify all members that applications for licence to export pianos (including pianos parts wholly or mainly of metal, and piano actions) received by the Industrial Supplies Department or by the Export Licensing Department, after March 31, 1942 will not be granted. Export licences which have already been granted, but against which goods have not yet been exported, *will not be cancelled*, but

³⁸⁰ "Census of Manufacturers Registered under the Limitation of Supplies (Miscellaneous Order)," May 1941. BT 64/1786. National Archives.

³⁸¹ "Pianoforte Exports Group Bulletin: P.E.G.," *Music Trades Review*, November 1941, 20.

³⁸² Eugene Sotheran, "General Meeting of the Piano Trade: Drastic Governmental Proposals," *Music Trades Review*, December 1941, 193.

³⁸³ The Lend-Lease Agreement was a policy in which the United States would give supplies, food, and armaments to Allied nations in return for use of army and naval bases in Allied territory during the war. The policy was enacted in March 1941 and lasted until August 1945. As part of this agreement Allied nations agreed to restrict competitive manufacture and exports. "Lease-Lend Agreement: Another Blow for the Industry," *Music Trades Review*, January 1942, 6.

such licences cannot be renewed when they expire.³⁸⁴

The Census of Manufacturers report to the Board of Trade for March-May 1942 shows the impact of these restrictions and eventual cessation of export. During this period the industry reported that only £1,847 worth of pianos were exported. After this period, the piano trade stopped reporting to the Board of Trade the value of exported pianos and all production for export was stopped.³⁸⁵

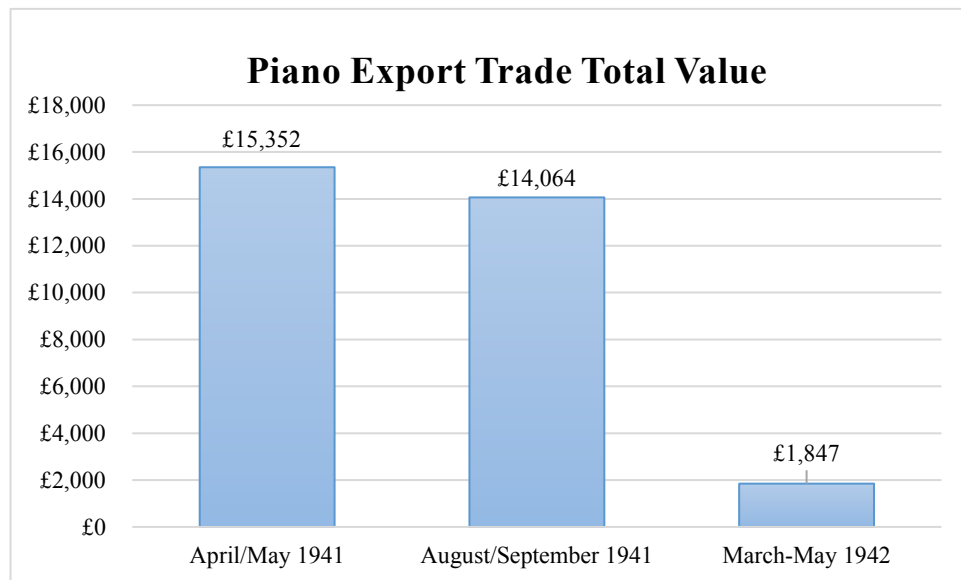


Table 7. Compiled export value of the piano industry from the “Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order” for April 1941, May 1941, August/September 1941, and June 1942. BT 64/1786. National Archives. The impact of export restrictions is clearly visible.

Government Contracts and War Work

As the war progressed and piano production decreased, piano firms sought alternative sources of revenue. As many of the restrictions created by the U.K. Government were put in place to encourage industries to convert to war production through limiting available materials and increasing the taxes on products, resulting in plummeting consumer sales, industries sought alternative revenue, mainly through producing items for the war effort. Throughout the Second World War companies had the potential to

³⁸⁴ “Cessation of Export Licences,” *Music Trades Review*, April 1942, 53.

³⁸⁵ “Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order,” June 1942. BT 64/1786. National Archives.

secure either direct contracts with the Government or to work under a firm with direct contracts as a subcontractor.

A direct contract involved a company fulfilling an order that came directly from the Government: either through the Board of Trade, a branch of the military (such as the Ministry of Aircraft Production), or one of the many governmental departments tasked with supplying the war effort. The ability of securing a direct contract through the Government was difficult for many piano companies. One of the main factors in determining the successful application for contracts was that of production capabilities and by the beginning of the Second World War many British piano firms were considered to be “small firms”³⁸⁶ and did not have the requisite factory space or labour force to fulfil contracts in the eyes of Government departments. This prevented many of the firms from receiving direct contracts³⁸⁷ and Sotheran wrote in the *Music Trades Review* in April 1940 that “The Piano Trade has been attempting to get Government contracts but has not succeeded.”³⁸⁸ That said, companies like Supertone, were eventually able to secure direct contracts, but generally, the smaller firms (fewer than 200 workers) were mainly enlisted as subcontractors by other manufacturers.³⁸⁹ According to Postan the use of subcontracting was desirable in order to distribute contracts among a number of firms as an insurance against bombing.³⁹⁰

Subcontracts fell into two categories. The first type entailed the subcontracted firm supplying the main contractor with materials, specialised components, or completing a particular process in the manufacture of an item (such as electroplating metal parts). The second type had the secondary firm sublet part of an order which the main contractor could not complete.³⁹¹

³⁸⁶ According to Postan, a company with fewer than 200 employees was labelled as small.

³⁸⁷ An example of a piano firm having trouble securing government contracts is that of John Broadwood and Sons. The firm repeatedly applied for contracts through the government for making items such as airplane part and wooden boxes, but they were repeatedly denied. See Chapter 6 for more details.

³⁸⁸ Eugene Sotheran, “British Pianoforte Industry Faces a Crisis,” *Music Trades Review*, April 1940, 69.

³⁸⁹ Postan, 390.

³⁹⁰ Ibid, 412.

³⁹¹ Ashworth, 84.

But what types of product could the piano industry manufacturer that would benefit the U.K. war effort? The piano industry, although not highly mechanised, was departmentalised, with specific people completing one task in the overall production of instruments. The workers completing these tasks included craftsmen, mainly carpenters, and French polishers. After the piano was completed another group of employees would “finish” the instrument. These employees were regulators and tuners.³⁹² In regard to demographics, the industry employed men who fitted within a wide range of ages, from apprentices to master craftsmen.

In general, piano companies who were able to secure war contracts performed woodworking related tasks. According to a memorandum from the Directorate of Woodworking, part of the Ministry of Supply, “we are employing quite a number of piano firms...”³⁹³ Although the Directorate did not elucidate what this branch of the Ministry of Supply was using the piano firms for, it is possible to surmise some of the types of work completed by the firms, such as wooden boxes for ammunitions shipments, rifle stocks, and medical stretchers. Additional tasks may have included coffin manufacture.³⁹⁴ According to Wainwright, one company, Danemann, made army stretchers and wheels for gun carriages.³⁹⁵ Additional examples of woodworking contracts are companies that made furniture such as Eavestaff and Supertone. In the November 1941 issue of the *Music Trades Review* Eavestaff ran an advertisement which mentions “Also selling occasional tables.” An example of this type of work by Supertone is a side table on display at the Coleton Fishacre Historic House, a property under the care of the National Trust in Devon. The table is signed “Supertone Pianos Ltd.” and was made in 1945.

³⁹² A regulator is charged with setting up the balance, or “touch” of the piano action. This includes adjusting the weight of the keys, shaping the piano hammers, and adjusting the back check to insure the speed in which the piano hammer returns. Tuners would bring the strings up to tension and tune the strings for shipment to a retail store.

³⁹³ Memorandum from B. Pattison to R. Postgate. 15 November 1943. Memorandum from S. A. Hurren to the Pianoforte Industries and Export Group. 15 October 1943. BT 64/1786. National Archives.

³⁹⁴ The American piano manufacturing company Steinway and Sons manufactured coffins throughout the Second World War and it is possible that British companies did the same. Sarah Deters Richardson, “Instruments of War: The Impact of World War II on the American Musical Instrument Industry” (master’s thesis, The University of South Dakota, 2010), 231.

³⁹⁵ Wainwright, *The Piano Makers*, 161.



Figure 12. Supertone Pianos Ltd., occasional table, 1945. NT 85153. Coletton Fishacre Historic House. Photo courtesy of the National Trust.

Documentary evidence of the war-time contracts (both primary and subcontracted) obtained by the piano industry is difficult to find. The contracts would have been held in the individual company's records and unfortunately most of the documents from this time period were not preserved when companies went out of business or were absorbed by other firms. Although not specific in detail, the census reports sent to the Board of Trade in 1940-1942 give an indication of the amount of work these firms were completing, even if they do not give specific details as to what they were producing.

Primary Contracts

According to the First Census the piano industry had very little in the way of direct Government contracts in September 1940.³⁹⁶ The Government was ordering pianos from two firms (Kemble, and Vincent which is discussed later in the chapter) but was not commissioning large amounts of war production work from the piano industry. Only three firms had received orders; these were Challen with a mere £196 worth of orders, Stroud with £1,670 worth of orders, and Triumph Auto Pianos with the largest

³⁹⁶ Piano production contracts are discussed later in this chapter.

order of £7,266 (see Appendix 1 for additional information). During this time the piano industry was still relying on piano production, with the majority of their revenue coming from domestic piano sales.³⁹⁷

The next census reported the value of non-piano Government orders for April and May 1941, as well as the orders on hand for June of that year. According to this census the amount of Government orders had dramatically increased by the release of this document. For non-piano orders the Government purchased £12,233 worth of products in April and £24,685 in May. The orders on hand for non-piano Government work totalled £79,167 but this amount is just a total of the orders taken by the companies, not the completed products.³⁹⁸

The August/September census report includes a cumulative amount for non-piano Government purchases for those two months. This amounted to £43,693 worth of items sold to the Government.³⁹⁹ The next census, filed in June 1942 reported £93,731 worth of non-piano products sold to the Government in March–May 1942. Of this, £65,074 worth of work was being done by the piano manufacturers in the London area, £185 was completed by Stroud, and £28,472 was completed by Supertone Piano, Ltd.⁴⁰⁰ The increase in orders for non-piano products is indicative of the industry's switch to war production, or at least a change to production of items approved by the Board of Trade.

A natural primary contract for piano manufacturers was for the production of pianos. According to the documentation found at the National Archives these contracts were to supply the Navy, Army and Air Force Institutes (N.A.A.F.I.) with pianos to be used in concerts and for recreational purposes on military bases.⁴⁰¹ The Board of Trade

³⁹⁷ Domestic pianos sales amounted to £21,494 for September 1940.

³⁹⁸ "Census of Manufacturers Registered under the Limitation of Supplies (Miscellaneous Order)," April 1941 and May 1941. BT 64/1786. National Archives.

³⁹⁹ "Census of Manufacturers Registered under the Limitation of Supplies (Miscellaneous Order)," September 1941. BT 64/1786. National Archives.

⁴⁰⁰ The census reports were divided geographically listing the various regions of the United Kingdom. This included London, Eastern, Southern, South Western, Midlands, North Midlands, North Eastern, North Western, Northern, Scotland, Wales, and Northern Ireland. Only Stroud and Supertone were located outside of the London area so it is possible to determine what those companies' sales were through these reports. Unfortunately, these reports do not give individual company information for the London area manufacturers.

⁴⁰¹ According to the website of the N.A.A.F.I., the organisation supports the British armed services by "Serving the Services." The organisation ran recreational establishments for those in the military and sold products to support servicemen. Some of the entertainment included concerts for servicemen and during 1944 N.A.A.F.I. employed over 4,000 artists to entertain the troops. "History," accessed 11 April 2016. <http://www.naafi.co.uk/history>.

granted an open licence allowing unrestricted supplies of pianos to be sold to the N.A.A.F.I., and to the members of the Council of Voluntary War Work. These instruments would not come out of the firm's quota for manufacturing.⁴⁰²

Even though pianos were sought after by these organisations, not every piano company was able to secure contracts. The first and second census of piano manufacturers conducted by the Board of Trade demonstrates the disparity between firms, an increase in piano orders, and then the eventual cessation of Government-issued piano production because of the lack of raw materials.

The first census listed the orders received by each of the reporting piano firms in September 1940. According to this document only two piano manufacturers had received orders to provide pianos to the Government. These were Kemble, with a value of £5,636 worth of pianos sold, and Vincent, for £1,278. Interestingly, in the document the Board of Trade mentioned the need to expand these contracts beyond the two firms but the same memorandum stated that a more extensive spread amongst the piano manufacturers would not be helpful as there were not enough orders or materials to support the entire trade. It was noted that "nearly every firm indicates ability to undertake such work," but the Board of Trade was more interested in maintaining a few piano firms and closing the others in order to release labour.⁴⁰³

Initially the firms chosen to manufacture instruments were most likely picked because of the price of their product. Both Kemble and Vincent were manufacturers of wholesale or "stencil" pianos and the instruments were relatively inexpensive.⁴⁰⁴ The Board of Trade noted that other companies were too expensive. They singled out Broadwood and Sons stating "the Broadwood product probably is too expensive for the N.A.A.F.I. or similar use." The document states that firms that had not received

⁴⁰² S. A. Hurren. "Pianoforte Export Group," *Music Trades Review*, March 1941, 47.

⁴⁰³ "Board of Trade First Census: Musical Instruments." November 1940. BT 64/1786. National Archives.

⁴⁰⁴ The retail price of an upright piano by Kemble was 32 guineas in 1939 (£33 12s). *Retail Price-List 1939*. Hackney Archives, 2009/46. This is considerably less than a Broadwood & Sons upright piano which, according to their retail sales books were priced at £45-54, depending on the veneer style. "Broadwood Retail Sales Books" 2185/JB/4/4. Surrey History Centre.

contracts for piano production or other products would “gradually decline and their employees will take up other work.”

Throughout 1941 the purchase of pianos by the Government was fairly steady, with more than £2,000 worth of pianos sold during each of the months reported. This includes the April 1941 census with £2,282 worth of pianos sold to the Government, May 1941 sales totalled £2,098, and the August/September 1941 report totalling £5,296.⁴⁰⁵ In 1942, the piano firms reported £10,055 worth of pianos sold to the Government for the period of March to April 1942, an increase on piano orders from the previous year. All of these instruments were sold by London area piano manufacturers.⁴⁰⁶

The increase in piano production in 1942 corresponded with a release of raw materials to the industry in September 1941. At this time the industry received 10 tons of steel and 154 tons of iron which could be used for the manufacture of pianos to be sold to the Government or for export.⁴⁰⁷

Although the census reports for piano manufacturing stop with the April 1942 report, the correspondence in the Board of Trade files gives more evidence that piano firms continued to manufacture instruments for the Government well into 1943. It also elucidates the difficulty the industry had in obtaining materials even though they were manufacturing instruments for the military.

According to a memorandum from Miss J. E. Meldrum, in 1943 the N.A.A.F.I had ordered 600 pianos for themselves and 1,117 pianos for American Forces to be completed by December of that year. Half of the instruments for the American forces were to be reconditioned second hand pianos. Although this was a direct order for over 1,100 new pianos for a Government agency, the Director of Iron Castings refused to release iron for the manufacture of iron frames. Instead, piano firms were left to finish

⁴⁰⁵ This could be averaged to £2648 per month. “Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Orders,” April 1941-September 1941. BT 64/1786. National Archives.

⁴⁰⁶ The census is reported according to geographical areas and in the 1941 and 1942 reports it was recorded that all Government ordered pianos were purchased from the London area.

⁴⁰⁷ Memorandum A – Factual Survey. March 1942. Board of trade. Post-War Re-Construction, Pianofortes Industry. BT 64/1786. National Archives.

as many pianos as they could from existing, and highly depleted, stocks.⁴⁰⁸ This caused difficulty in the ability of piano firms to fulfil Government orders. For example, in April 1943, Lambert Piano reported that the company had been making 50 pianos a month for the N.A.A.F.I. but because of the lack of materials, the firm was now uncertain if they could continue at the same rate as before because the firm's allocation of iron was running out. Meldrum noted that since no new sources of iron were going to be available to the piano industry, the Board of Trade was giving the companies a licence to manufacture pianos until 30 June 1943 in order to complete the manufacture of their existing stocks with the understanding that all the pianos completed during this time were to be offered to the N.A.A.F.I.⁴⁰⁹

The piano industry's response was understandably one of frustration. The companies reported that in addition to not being able to complete piano production because of lack of supplies, their companies had lost so much labour to the war effort that it was difficult to make pianos with their limited staff. Firms such as Monington & Weston, Brasted Brothers, and Triumph Auto Pianos reported that they could not complete their piano production by 30 June because they were already working for other Government departments who were taking up the majority of their labour and resources.⁴¹⁰

Twelve additional firms reported that they had uncompleted pianos and materials which would number 500 completed instruments if they were just given additional time to finish their manufacturing. These firms estimated that they could complete the work in four months, meaning the pianos would be completed by September 1943.⁴¹¹

Although the Board of Trade "felt that firms should be given a chance to complete their unfinished stocks because N.A.A.F.I. is in need of more pianos than their stocks represent," it, and the Ministry of Labour and National Service, were "anxious" to shut the piano industry down.⁴¹² The Board of Trade informed the industry that piano

⁴⁰⁸ "Note on the position with reference to supplies of pianos to N.A.A.F.I." from J.E. Meldrum. Memoranda. 16 April 1943. BT 64/1783. National Archives.

⁴⁰⁹ Ibid.

⁴¹⁰ E. A. Fisher. "Production of N.A.A.F.I. Pianos" 3 May 1943. BT 64/1783. National Archives.

⁴¹¹ J.E. Meldrum, Board of Trade, "Letter to Miss Waters, The Ministry of Labour and National Service," 6 May 1943. BT 64/1783. National Archives.

⁴¹² Ibid.

making would be completely closed down on 31 August 1943.⁴¹³ Piano firms with stocks of unfinished pianos and licences to manufacture pianos had until 30 June 1943 to complete manufacture on condition that all the pianos must be offered to the N.A.A.F.I.⁴¹⁴

To emphasise the seriousness of situation, the Board of Trade withdrew the nucleus certificates of the nine piano companies on 30 June 1943. The companies which lost their nucleus status as piano producers included Brasted Brothers, British Piano Actions, Chappell Piano, Kemble, Alfred Knight, Alfred Taylor, Monington & Weston, Triumph, and Whelpdale, Maxwell & Codd.⁴¹⁵

By 18 August 1943, a few companies were granted extensions to finish as many of their orders as they could for the N.A.A.F.I. These included:

1. Lambert Piano, licensed to produce up to 200 pianos until 31 August 1943;
2. J. B. Crammer & Co Ltd., licence expired on 30 June but extended until 31 August 1943 in order to complete 43 pianos;
3. Monington & Weston Ltd., licence expired 30 June 1943 but extended to 31 August 1943 in order to complete 13 pianos;⁴¹⁶
4. Leswein Piano Ltd., licence expired on 31 July 1943 but given until 31 August 1943 to complete 15 pianos for the N.A.A.F.I.;
5. Triumph Auto Pianos Ltd., licence expired 31 July 1943. Requested extension to complete 43 instruments for the N.A.A.F.I.⁴¹⁷

In September of 1943, E. A. Fisher of the Board of Trade wrote to E. C. P. Lascelles of the Ministry of Labour and National Service on the status of piano manufacturing. He said:

⁴¹³ E. A. Fischer, Board of Trade, to E. C. P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture," June 1943. BT 64/1783. National Archives.

⁴¹⁴ Miss Waters, Ministry of Labour and National Service, "Letter to Miss Meldrum 'Piano Industry' Board of Trade," 22 April 1943. BT 64/1783. National Archives.

⁴¹⁵ E. A. Fischer, Board of Trade, to E. C. P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture," June 1943. BT 64/1783. National Archives.

⁴¹⁶ It was noted that E. A. Fischer thought it was unlikely that the company would be able to complete these pianos by the end of the month.

⁴¹⁷ E. A. Fisher, Memorandum, "Piano Manufacturers," 18 August 1943. BT 64/1783. National Archives.

All piano firms concerned have completed their stocks of new pianos suitable for N.A.A.F.I. except Vaudeville (2 to complete) and Leswein (14 to complete). These companies will get extensions to complete the pianos but they must be done by any labour that may be left to them after the Ministry of Labour and National Service investigates their workforce and transfers labour.⁴¹⁸

Once Vaudeville and Leswein completed their remaining pianos for the N.A.A.F.I., the manufacturing of new pianos stopped for the remainder of the war.

Secondary Contracts

Airplane component manufacture was another major part of the piano industry's war related work. Piano firms such as Kemble, Stroud, and Alfred Knight were hired as subcontractors by the de Havilland Company⁴¹⁹ to manufacture components for the D.H. 98, also known as the Mosquito, a versatile airplane that was made of an all wood construction. The use of piano manufacturers in the production of this aircraft was so well known that Herman Göring once said:

In 1940 I could at least fly as far as Glasgow in most of my aircraft, but not now! It makes me furious when I see the Mosquito. I turn green and yellow with envy. The British, who can afford aluminium better than we can, knock together a beautiful wooden aircraft that every piano factory over there is building, and they give it a speed which they have now increased yet again. What do you make of that? There is nothing the British do not have. They have the geniuses and we have the nincompoops. After the war is over I'm going to buy a British radio set – then at least I'll own something that has always worked.⁴²⁰

Göring was correct, the Mosquito was a beautiful wooden aircraft and it was the fastest airplane produced at the time. But his description of its manufacture by “every piano factory” was a hyperbole. A number of piano firms were involved in the manufacture of parts for the Mosquito aircraft, but not every piano factory was building the plane.

⁴¹⁸ E. A. Fisher to E. C. P. Lascelles, “Pianoforte Manufacturers,” September 1943. BT 64/1783. National Archives.

⁴¹⁹ The de Havilland Company was a private aviation manufacturer founded in 1920 and located in Hatfield, England. Prior to the beginning of the war the company built civil aircraft. “The De Havilland Mosquito” undated. AVIA 46-116. National Archives.

⁴²⁰ Horst Boog, Gerhard Krebs and Detlef Vogel, *Germany and the Second World War: Volume VII: The Strategic Air War in Europe and the War in the West and East Asia, 1943-1944/5* (Oxford: Clarendon Press, 2006), 407.

The Mosquito was designed by the de Havilland Company independent of any Air Ministry contracts or advice.⁴²¹ The innovation of the aircraft was that it utilised an all-wood body made of a multiple ply of spruce and balsa wood which was formed into the required shape. The airplane was equipped with two Rolls Royce Merlin engines and could accommodate two crew members. The aircraft was originally conceived as an unarmed fast bomber. The concept of the aircraft relied on its superior speed as its defence, meaning that because it was the fastest aircraft in flight it would be able to outrun any enemy aircraft that may challenge the plane in combat and that it would not need heavy and cumbersome armament in order to protect itself.

The original design proposal was sent to the Ministry of Aircraft Production in September 1939.⁴²² In the proposal de Havilland cited a number of reasons for the all-wood construction. At the forefront of the justification was that using wood avoided using strategic materials such as aluminium. In addition, because the aircraft relied on hand-made wooden construction it reduced to the minimum the number of man-hours needed to design and construct jigs. This meant that production could begin quickly without the need to build speciality equipment. Not needing specialist equipment or training in metal working would make the aircraft's production attractive to a number of subcontractors, especially those in the woodworking industry. In addition, in order to manufacture the aircraft a high percentage of skilled labour was required, but this

⁴²¹ "The De Havilland Mosquito" undated, National Archives, AVIA 46-116.

⁴²² Ibid.

was mainly wood-workers so production would use labour and materials outside those used in aircraft production.⁴²³

The wooden outer skin construction consisted of a 7/16" layer of Balsa wood⁴²⁴ faced

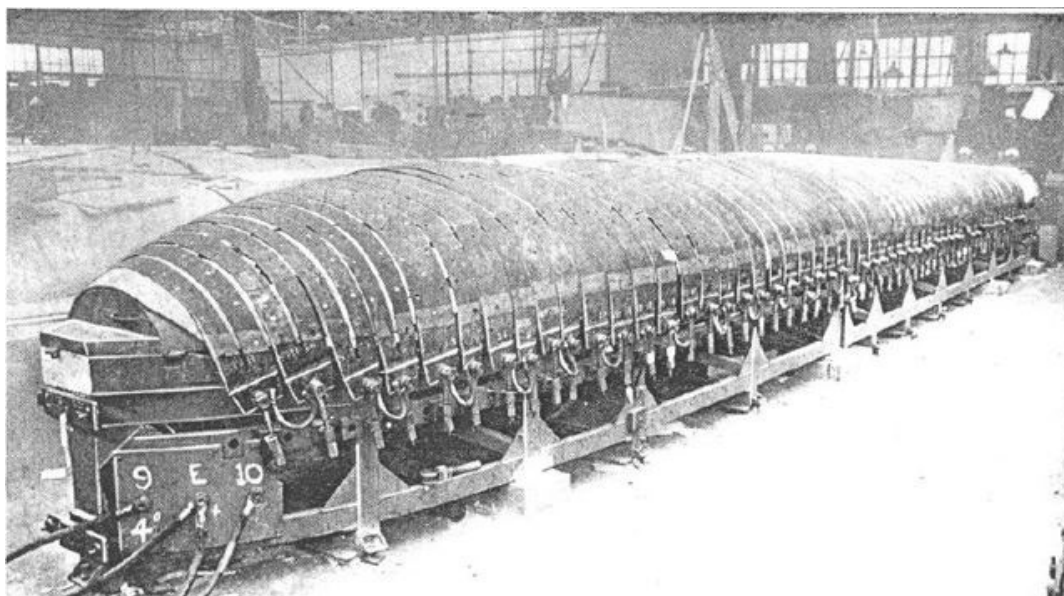


Figure 5. A jig for the fuselage mould of a Mosquito aircraft. Thin layers of wood would be formed over the shape of the jig. The metal strips would then be placed over the wood to hold it in place as it was shaped to the form of the aircraft. Image courtesy of <http://users.skynet.be/BAMRS/dh103/fuselage-construction.htm>.

on both sides with 1 ½ mm three ply⁴²⁵ of birch.⁴²⁶ The firm chose wood as the material not because of any technical advantage over metal aircraft construction, but because they would be able to use materials and labour which were not otherwise used in aircraft manufacture.⁴²⁷ The outer skin was then covered with an aircraft fabric called Mandapolam that was stretched with dope and then painted.⁴²⁸

⁴²³ "High Speed Bomber – Proposal by De Havillands," September 1939. AVIA 46-116. National Archives.

⁴²⁴ Although the planes utilised all-wood construction in order to avoid the risk of material shortages, obtaining large quantities of Balsa wood became difficult in early 1945. In a report in the National Archives a document discusses how there was difficulty in the procurement of this wood. The company had a 10-month supply but they were looking at other sources including Cameroon and Brazil. AVIA 46-116. National Archives.

⁴²⁵ In the construction of the aircraft, the wooden skin had a core of balsa wood. On either side of this core were three thin layers of birch wood which were constructed with the grains of the wood running at 90 degree angles from each other. These three layers are known as three ply.

⁴²⁶ "High Speed Reconnaissance Bomber to Specifications B1/40 (Mosquito). Preliminary Consideration of Design." Undated. AVIA 46-116. National Archives.

⁴²⁷ "The De Havilland Mosquito" undated, AVIA 46-116. National Archives.

⁴²⁸ Mandapolam is a cotton fabric which has equal warp and weft giving it strong tensile strength and shrinkage in all directions. Dope is a plasticised lacquer that when painted on fabric makes the fabric



Figure 6. Study for a glider nose by the designer Charles Eames, 1943. Although this study was for the all-wood gliders manufactured by American companies such as Steinway & Sons, the construction technique was similar to that of the Mosquito with layers of wood formed around a jig. MOMA 2012. Photo by author.

The first production order was placed on 1 March 1940 for 50 aircraft with an initial delivery date of July 1941.⁴²⁹ This order was increased to 200 aircraft in October 1940.⁴³⁰ The first prototype of the Mosquito flew in November 1940.⁴³¹ The aircraft exceeded expectations and the Ministry of Aircraft Production ordered Mosquito aircraft to be used as high speed bombers, photographic reconnaissance aircraft, and fighter planes.

airtight and waterproof. M. J. Hardy, *The de Havilland Mosquito* (London: Douglas David & Charles Limited, 1977), 15.

⁴²⁹ After the fall of Dunkirk 26 May – 4 June 1940 the Mosquito programme was officially stopped. It was reinstated in July 1940. Hardy, 12.

⁴³⁰ “The De Havilland Mosquito” undated, AVIA 46-116. National Archives.

⁴³¹ Hardy, 14.



Figure 7. Mosquito Bomber. Image of plane tested in tactical trials at R.A.F. Station, Duxford on 12 November 1941. AIR 20/2284. National Archives. Image courtesy of the National Archives.

Although the unarmed bomber relied on its exceptional speed as its defence as it carried a bomb load of 2,000 lbs, the fighter, on the other hand, was armed with four 20mm cannon and four 0.303 inch calibre machine guns which were mounted on the nose of the fuselage. After its success in its initial role, the aircraft was adapted to a number of additional roles including tactical bomber, night bomber, night fighter (equipped with radar), high altitude fighter, and naval fighter. When production began in earnest in 1941, the Mosquito was the fastest operational aircraft in the world.⁴³²

⁴³² "The Versatile Mosquito" except from *The Times* May 1942 found in folder AVIA 46-116. National Archives.

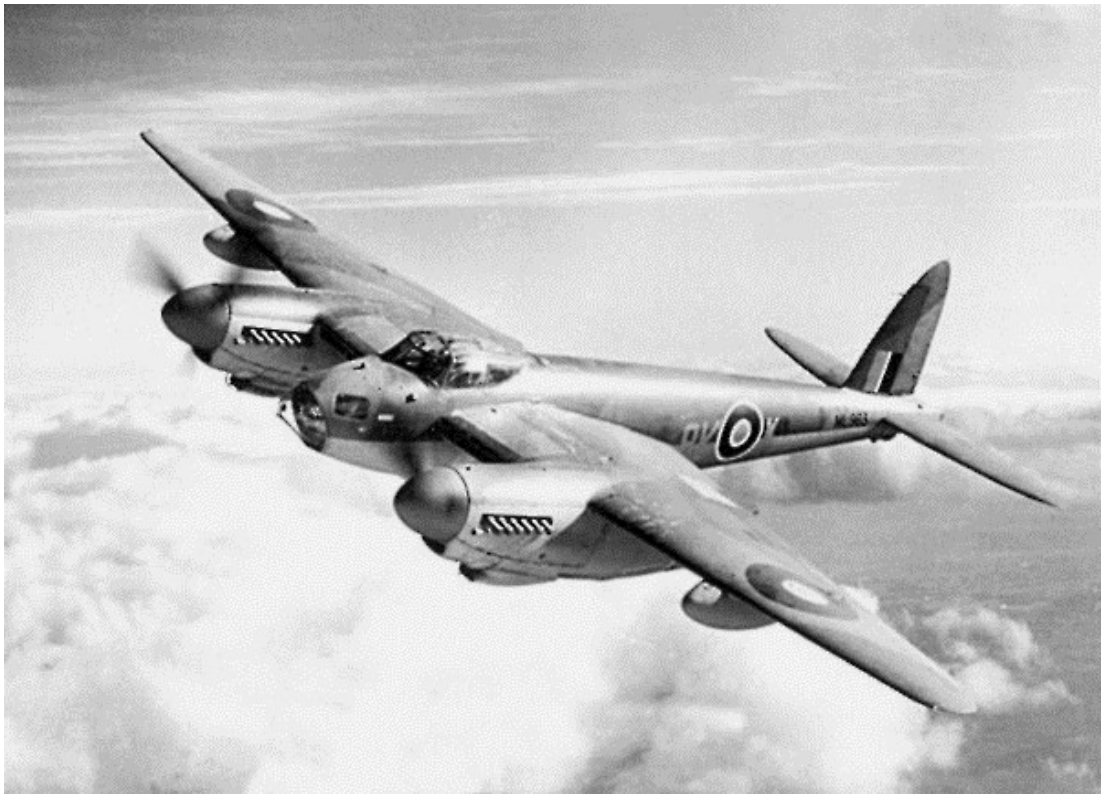


Figure 8. DH-98 Fighter. AIR 20/2284 National Archives. Image courtesy of the National Archives.

It was noted in an article from the *Times* in 1942 that de Havilland had over 400 furniture and woodworking factories, large and small, working as subcontractors making parts for the bombers.⁴³³ These included the Educational Supply Association Ltd, makers of school furniture, Decca Records, the coach makers Hoopers, and as previously mentioned, piano manufacturers.⁴³⁴ Piano makers had experience in constructing multiple ply components as well as bending wood, and the firms had ample factory space. In addition, many piano firms did not have primary war production contracts and were in need of work. Becoming a subcontractor for the supply of airplane parts was of mutual benefit both for the piano firms and for de Havilland. According to the trade magazine *The Pianomaker*, the industry could apply for contracts to manufacture airplane parts through the Air Ministry beginning in

⁴³³ Ibid.

⁴³⁴ Hardy, 20.

February 1941.⁴³⁵ Piano firms which received work manufacturing airplane components included Stroud, Alfred Knight, Barratt and Robinson, and Kemble.⁴³⁶

The success of the aircraft's design, as well as the widespread network of suppliers, allowed for de Havilland to supply the demands of the war. During the war 6,710 Mosquito aircraft were built: 5,570 of these aircraft were built in the United Kingdom; 1,032 in Canada; and 108 in Australia.⁴³⁷

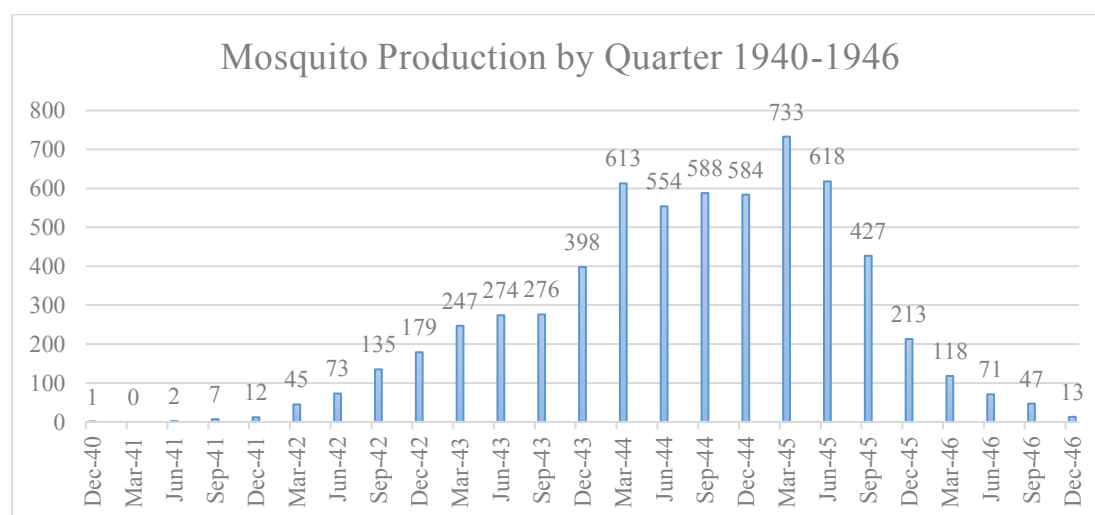


Table 8. Production output of de Havilland Mosquito aircraft produced in the United Kingdom from November 1940 to November 1946. Production numbers courtesy of Dr Andy Dawson. "The Mosquito Page" accessed 4 April 2016. www.mossie.org.

Nathaniel Berry & Sons capitalised on the events of the Blitz and began manufacturing air raid shelters. These small shelters ran with the jaunty slogan "Be merry in a 'Berry' and beat the Blitz."⁴³⁸

⁴³⁵ "Announcement" *The Pianomaker*, February 1941, 451.

⁴³⁶ According to Wainwright, Barratt and Robinson produced some NAAFI pianos but most of the factory was turned over to the production of parts for wooden-clad aircraft, such as the Mosquito. Wainwright, *The Piano Makers*, 161. Denzil Jacobs was quoted as saying "we made parts for Mosquitos, which were all-wood aircraft and had to learn how to put them together so that they stayed that way" in a newspaper clipping found in the Kemble archives. In addition, the end of year report for 1942 stated that Kemble had sold £127,197 6s 8d worth of aircraft components that year and had an additional £14,538 14s 7d worth of airplane component stocks on hand in December 1942. Kemble & Co., "Balance Sheet" 31 December 1942. Kemble and Company 2009/46. Hackney Archives.

⁴³⁷ C. Martin Sharp and Michael J.F. Bowyer, *Mosquito* (Manchester: Crécy Publishing Ltd, 1995) 83.

⁴³⁸ "Take Shelter in a 'Berry,'" *Music Trades Review* March 1941, 39.

Changes in Labour

As previously stated, a driving force in the restrictions on the piano industry and the eventual shutdown of production was the need for labour. In order to meet the deficiency in manpower and to transform the economy from one of peace to war, the Government facilitated the movement of large amounts of workers from peace-time occupations to war-time manufacturing jobs, mainly munitions and other essential manufacturing industries.⁴³⁹ Although the piano industry did not employ a large workforce in comparison to other industries at the start of the war, each man (and eventually woman) was needed for the war effort, and the piano industry with its “luxury” status was subject to scrutiny by the Government, leading to most of its employees either enlisting in the military or being moved to essential manufacturing industries.

After the declaration of war, the piano industry, like all aspects of British industry, lost men to enlistments within the military. As the war progressed the restrictions placed upon the piano industry were done so not only to release materials for the war effort, but also to ensure a supply of labour for the war effort. During this time the people employed within piano manufacturing changed dramatically. Able-bodied men were moved from piano manufacturing to either military service or war production, companies with war production contracts had an influx of new workers, and women were integrated onto the production floor to compensate for the loss of male workers.

According to the employment figures sent to the Ministry of Supply in the Census of Manufacturing Reports the reporting piano companies employed 586 people in the production of pianos in October 1939. This number fell to 483 in June 1940 and then rose to 522 in October 1940. In the June 1941 report, in addition to people employed in the production of pianos, the industry reported total employment, listing the number of employees engaged in “all products” as well as those employed in the production of pianos. In June 1941 the industry reported that it employed a total of 1,072 people with only 580 (of 54%) of these employees working on piano production. In October of 1941, the total employment was 1,017 with 459 (45%) of the workers making

⁴³⁹ Ian Gazeley, “Women’s pay in British industry during the Second World War” *Economic History Review* 61 (December 2008): 654.

pianos, and in June 1942, the employment rose to 1,283 with piano workers accounting for less than one-third with 386 employees. In these reports the increase of female employees is also recorded with the percentage of female employees rising from 5.9% in April 1941 to 27.9% in June 1942.⁴⁴⁰

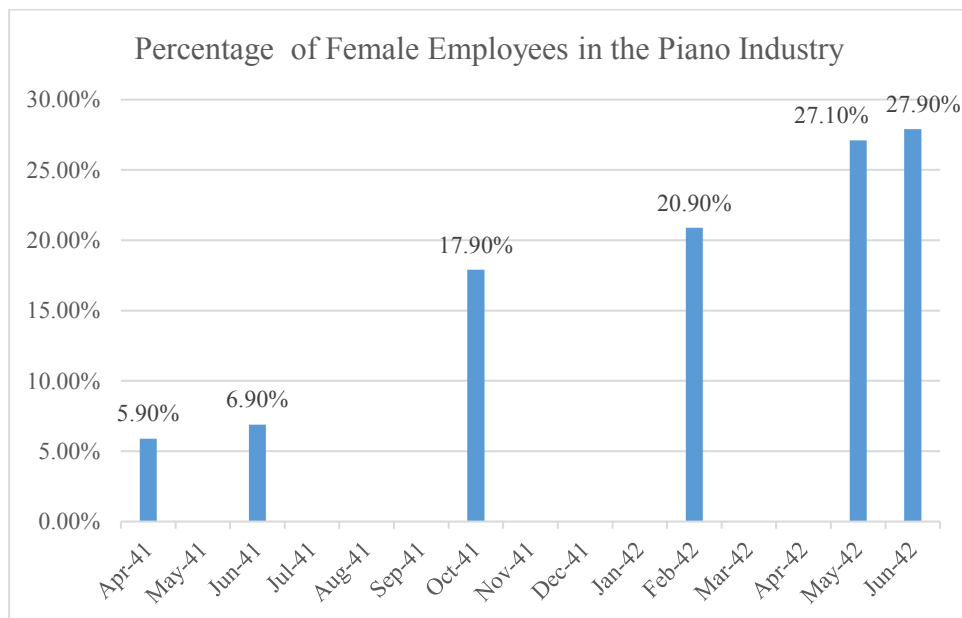


Table 9. As piano companies received war production contracts the rate of employment of women in the factories increased following the employment trends of the U.K. as a whole. Table compiled by author from the “Census of Manufacturers registered under the Limitation of Supplies Orders,” April 1941 – June 1942. BT 64/1786. National Archives.

As previously discussed, taxes placed on the piano industry encouraged companies to seek out war contracts while Limitation Orders and the Concentration of Industries Scheme placed heavy restrictions on the production of pianos. Under these rules, piano companies that received war production contracts and protected status were able to maintain their employees while smaller companies were forced to consolidate with nucleus firms, thus releasing their employees to the Ministry of Labour so that they could be transferred to factories making war products. Even though by June 1942 less than one-third of the people employed in the piano industry were engaged in making

⁴⁴⁰ “Census of Manufacturers Registered Under the Limitation of Supplies Orders” October 1939, June 1940, October 1940, April 1941, June 1941, October 1941, June 1942. BT 64/1786. National Archives.

pianos, the Ministry of Labour continued to press for the industry to completely shut down.

The Ministry of Labour and National Service was heavily involved in the process of halting the production of pianos for the domestic and export market, as well as for the N.A.A.F.I. During this time the ministry was particularly concerned with the number of labourers working on pianos for the N.A.A.F.I. Over a period of five months (April 1943 to August 1943) E. A. Fisher and E. Meldrum from the Board of Trade corresponded with W. P. Lascelles and M. J. Waters from the Ministry of Labour and National Service regarding this issue. The correspondence coincides with the removal of nucleus status certificates for piano manufacturers by the Board of Trade. In the correspondence the pressure for labour to be released from piano manufacturing is evident.

For example, in May 1943 the office of the Ministry of Labour wrote:

...any labour employed only on piano making which is suitable for transfer should be transferred, and the firms should be allowed to complete their stock with labour which is not suitable for transfer.⁴⁴¹

In response, Fisher from the Board of Trade stated that the nucleus certificates were being removed but he cautioned against transferring all suitable labour before the N.A.A.F.I. pianos were complete. He wrote:

To show the trade that we really are serious, I have withdrawn the 9 nucleus certificates issued to the firms. I hope, however, that the Ministry of Labour will not take any fresh steps towards removing the existing labour until after the end of August, as we do wish to satisfy the requirements of the N.A.A.F.I. so far as that may be possible.⁴⁴²

It seems that Fisher's request was granted as "no further workers, engaged on piano production, should be withdrawn until immediately after 31st August."⁴⁴³ After the August deadline passed and the production of pianos for the armed services was

⁴⁴¹ Letter from M. J. Waters to E. Meldrum. 21 May 1943. BT 64/1783. National Archives.

⁴⁴² Letter from E. A. Fisher to E. C. P. Lascelles. "Pianoforte Manufacture." 21 June 1943. BT 64/1783. National Archives.

⁴⁴³ Letter from E. W. P. Lascelles to E. A. Fisher. 6 July 1943. BT 64/1783. National Archives.

complete, Fisher wrote to the Ministry of Labour that “the Board of Trade has no objection to any action you may take with regard to these [piano] firms.”⁴⁴⁴

The impact of the transfer of labour on the piano companies left many firms with very few remaining piano makers and those that remained were older men who were not eligible or able-bodied for other work. For example, C. H. Challen and Sons reported that in February 1943 they employed just one full-time worker and four part-time workers engaged in piano work and that was for repairs and maintenance for the B.B.C. The full-time employee was listed as aged 42 and “crippled;” the part-time employees included a 58-year-old man who worked 25% of the time, a 59-year-old man who worked 20% of the time and two men aged 42 and 46 who worked 5% of the time.⁴⁴⁵ It is interesting to note that these men were engaged in the repair and maintenance of pianos as this type of work was not regulated by the Board of Trade. Even so, this small number of employees is indicative of the status of employment of piano workers across the entire industry by 1943.

The transfer of the skilled, able-bodied piano workers from the piano factories would have a negative impact on the reconversion of the industry in the post-war era. As piano companies were ready to resume manufacturing, the industry would face a difficult time finding people to work in the industry and many future employees would need to be extensively trained in piano making.

Second Hand Piano Sales

As piano manufacturers faced restrictions on piano production, companies began to rely more heavily on the sales of second hand pianos. Throughout 1940 and 1941 it became increasingly difficult to manufacture new instruments and when export trade was ended in April 1942, domestic piano production halted in August 1942, and the orders for pianos from government agencies halted in August 1943, the selling of second hand instruments became the only type of piano sale allowed in the U.K. This type of trade was appealing to manufacturers who did not have sufficient war

⁴⁴⁴ Letter from E. A. Fisher to E. W. P. Lascelles, “Pianoforte Manufacturers” 18 September 1943. BT 64/1783. National Archives.

⁴⁴⁵ Letter from E. Meldrum to Mr. Postgate, “Piano Industry” 24 February 1943, National Archive, BT 64/1783.

production contracts, as the selling of second hand pianos did not require a large workforce, and for the most part, was unregulated by the Board of Trade. Some piano manufacturers, such as Broadwood and Sons, relied on the revenue earned from the sales of second hand instruments and hire pianos for their survival throughout the war years. (See Chapter 6 for more information.)

Although second hand pianos were mostly unregulated, if repairs had been done to the piano before the instrument was resold it was subject to the Purchase Tax after October 1940. To complicate the matter, if a company was just repairing pianos and not reselling the instrument, then the cost of the repairs was not taxed. According to the *Music Trades Review* the regulations regarding registration for the Purchase Tax in regard to sales and repairs of second hand instruments was as follows:

Firms engaged in repair work as distinct from manufacture are not required to register. Second hand goods as such are not exempt from tax, though in many cases no tax may be chargeable owing to the nature of the transaction, e.g., sales by retailers of second hand goods bought or taken back from members of the public. Firms who make a business of buying chargeable goods second hand and repairing or reconditioning them for sale to retailers are carrying on wholesale trade and must apply for registration.⁴⁴⁶

The ability to trade in used instruments, repaired or unrepaired, was an important part of the piano trade during the war years. That said, it is difficult to ascertain the sales figures of second hand pianos sold to the British public during this time period. Even with the Census of Manufacturing reports from the Board of Trade these figures are difficult at best. According to the Census, domestic piano orders totalled £38,499 in September 1940. At this time the piano industry was still able to sell new-built instruments to the public, without the added cost of the Purchase Tax, but it had been subjected to a 33⅓% reduction in production because of the Limitation of Supply Orders. Unfortunately, the sales figures are not broken down between new instrument sales and used instrument sales.⁴⁴⁷

Seven months later, in April 1941, domestic pianos sales were less than half of those previously reported with only £15,002 worth of pianos sold to the domestic market

⁴⁴⁶ "Purchase Tax Details Issued" *Music Trades Review*, August 1940, 151.

⁴⁴⁷ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order. October 1940. BT 64/1786. National Archives.

and in May of that year they had reduced to £14,329. At this point the piano industry was being forced to consolidate through the Consolidation of Industry Scheme, had reduced its production to 25% of what it had produced in 1939, and was required to charge an additional 33⅓% Purchase Tax on all new instruments sold domestically. Most likely these factors had a significant impact on the sales of newly manufactured pianos for the domestic market. Although the percentage of second hand pianos is not listed on these sales figures, it is probable that some of the sales at this time were of second hand instruments and it is highly likely that a large proportion of the sales were of used pianos.⁴⁴⁸

The next report lists domestic sales figures from August to September 1941 as a total of £40,052. By this time timber could no longer be distributed to the piano industry for domestic piano production by the Ministry of Supply and the piano industry had been consolidated. Most likely the combined domestic sales figure for these three months relied heavily on second hand piano sales.⁴⁴⁹ The same is true for the reported figures for March to May 1942, which totalled £57,607.⁴⁵⁰ It is possible that an even greater percentage of these sales were of second hand pianos as the industry was faced with a 66⅔% Purchase Tax on luxury goods beginning in April of that year. By August of 1942 the production of instruments for the domestic market was banned and all future sales were only of second hand instruments.

Although the sale of second hand pianos was generally unregulated, the sale price of the instruments was put under price controls by the Board of Trade in May 1942 as part of the General Furniture Order.⁴⁵¹ In addition, the industry faced difficulty in obtaining the raw material needed for the repair and maintenance of pianos because of the restrictions on raw material. In May 1942, the industry was granted a small supply of raw materials for the repair and reconditioning of used instruments, but after this

⁴⁴⁸ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order. May 1941. BT 64/1786. National Archives.

⁴⁴⁹ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order. September 1941. BT 64/1786. National Archives.

⁴⁵⁰ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order. May 1942. BT 64/1786. National Archives.

⁴⁵¹ "Second Hand Goods Now Price Controlled," *Music Trades Review*, May 1942, 69.

time, the industry would have to rely on their own stocks to maintain and repair any additional instruments.⁴⁵²

According to the correspondence of the Board of Trade preserved in the National Archives, it is evident that the piano industry took full advantage of the ability to sell second hand instruments without regulation or taxation, and perhaps without being truthful as to how much repair work was being carried out on the instruments. In a memorandum dated 23 July 1943, E. A. Fisher of the Board of Trade wrote:

...second hand pianos may be sold without licence. But, if any work “however little” is done on the pianos (e.g. re-felting of hammers or re-polishing a case) they may only be sold under licence.

And

I have heard that some piano manufacturers may be doing work on second hand pianos and selling without licence. I am proposed to look further into the alleged activity and stop it.⁴⁵³

But it seems that not everyone in the Board of Trade was as determined as Fisher to track down any offenders of unpaid Purchase Tax in the piano industry when it came to the sale of second hand pianos. In a handwritten note to Fisher, C.B.R.⁴⁵⁴ wrote:

...certainly refelting [sic] hammers and repolishing [sic] a case should be regarded only as repair, and as uncontrolled. If on the other hand, a complete new action was fitted we could reasonably say and think, that a new piano had been produced and that a licence was required for its sale.⁴⁵⁵

From April 1942 until August 1944, the piano industry could sell second hand pianos at a fixed price to the domestic market without the addition of the Purchase Tax, unless repairs were completed on the instrument. On 28 August 1944 these rules were relaxed further. Under the New General Furniture Order which went into effect on 28 August, 1944, pianos were recognised as instruments of art and second hand pianos and player pianos which were reconditioned, restored, or rebuilt were not liable to purchase tax.⁴⁵⁶

⁴⁵² Eugene Sotheran, “The Fight to Live,” *Music Trades Review*, May 1942, 64.

⁴⁵³ E. A. Fisher, “Sale of Second Hand Pianos” 23 July 1943. BT 64/1783. National Archives.

⁴⁵⁴ The handwritten note is sign C. B. R. but no other information was available in regard to its author. Most likely this is a Mr Richards, who worked in the Solicitor’s Office of the Board of Trade to whom the memorandum from Fisher dating 23 July was addressed.

⁴⁵⁵ C. B. R. to E. A. Fisher. Memorandum. 7 September 1943. BT 64/1783. National Archives.

⁴⁵⁶ Eugene Sotheran, “Second hand Pianos – A New Order” *Music Trades Review*, August 1944, 261.

Summary

During the first three years of the Second World War, restrictions and limitations placed on raw materials, production, and labour slowly stopped the production of pianos for the domestic and export market. Compounding these restrictions were debilitating taxes which made new pianos unaffordable for British citizens; these taxes were used by the Government to persuade industries to switch to war production. As production decreased, many piano firms were forced to consolidate with other companies, eventually closing their factories or leasing them to other industries. The need for materials for war production and the need of labour for both military service and manufacturing were the driving forces behind these restrictions and by August 1943 there was a complete shutdown of all piano manufacturing in Britain.

In order to survive the war years, piano companies sought alternative sources of revenue, often seeking primary or secondary contracts for war production. Piano companies relied on their knowledge of woodworking to procure contracts to manufacture wooden products such as airplane components and furniture. Firms unable to secure these lucrative contracts relied on the revenue from the sales of second hand pianos.

From August 1943 the British piano industry was reduced down to a few companies selling second hand instruments and other firms making war products. The manufacture of new pianos for the export market would be banned until summer 1946, and for the domestic market until 1949.

Chapter 5: The Lean Years and Reconstruction

It was estimated that during the war years Britain lost roughly £7.5 billion in national wealth from bomb damage, lack of maintenance, shipping losses, and external debt.⁴⁵⁷ Although faced with such losses, at the end of the war manufacturing capacity was high and economists, including Lord Keynes, believed that after a short period of reconstruction the economy would return to normal.⁴⁵⁸ It was believed that if British industry could rapidly convert from war production to domestic production, normal economic conditions would be restored, allowing Britain to recover from its substantial losses.⁴⁵⁹

Unfortunately, the reality of post-war Britain did not allow for the rapid reconstruction of industry. Instead of an expedient return to domestic production, it was years before the British economy recovered. During this time, materials were scarce, labour was in transition, and rationing continued. As long as the economy was unstable, the restrictions on the production of luxury goods stayed in place, thus preventing piano production. As the industry waited for permission to resume production, it faced the challenges of reconversion.

After the complete shut-down of piano manufacturing in August 1943, companies relied on war production contracts, selling second hand pianos, and repairing instruments for revenue. Although piano production had stopped, piano manufacturers were active in planning the reconstruction of the industry in the post-war era. Throughout 1942 to 1945, members of the Pianoforte Industry Export Group, led by secretary Stanley Hurren, kept in touch with the Board of Trade. This was done through a number of meetings organised by the Board of Trade and through representatives of piano firms writing numerous letters expressing their needs, asking

⁴⁵⁷ The amount is in 1945 prices. The original article gives this amount as \$30 billion in American dollars as the book was published in the United States. According to the website www.historicalstatistics.org £1 equalled roughly \$4, so this would equate to £7.5 billion. William C. Mallalieu, *British Reconstruction and American Policy 1945-1955* (New York: Scarecrow Press, Inc., 1956), 33.

⁴⁵⁸ John Maynard Keynes was Britain's most influential economist best known for his book *The General Theory of Employment, Interest and Money* and is the founder of modern macroeconomics. Ibid, 50.

⁴⁵⁹ Ibid, 34.

when the Purchase Tax would be lifted, and inquiring as to when they would be able to once again build pianos for the export or the domestic market. Their incessant correspondence led Raymond Postgate, a civil servant working for the Board of Trade and part of the department that oversaw the reconstruction of the piano industry, to write “I do not feel that I can escape from these detestable instruments.”⁴⁶⁰

Although the members of the piano industry were rightfully frustrated with the continued prohibition on piano production, the Board of Trade, for their part, was devising plans for the reconstruction of the industry. As early as 1942, the organisation began to investigate how best to restart piano production and when it would be safe to do so without hurting the war effort. But, the strategies and policies devised during the war would not help the industry to smoothly restart production, but continue to hinder it for many years after the end of the fighting.

Reconstruction Planning 1942-1944

In order to understand the complexities of restarting the piano industry, the Board of Trade developed a series of questions that were sent to Stanley Hurren to disseminate to piano producers. The questions were designed to collect information so the government would have a better understanding of the needs of the industry in order to restart production and to prepare the industry for a meeting that would take place in July 1942. These questions were the following.

Restarting the Industry

1. As the industry has practically ceased its normal activity, how long will it take to restart?
2. Will new plant [meaning machinery] be required? Is it obtainable in the United Kingdom?
3. Has any estimate been formed of post-war demand? Will there be a redundancy problem? If so, are any plans being formulated?
4. Piano manufacturers are dependent on many ancillaries. Will they be able to start readily? Is there any component which will present special difficulty?

⁴⁶⁰ In addition to working for the Board of Trade, Raymond Postgate was a well-known author, socialist, and gourmand. Raymond Postgate to Dr. Fisher, memorandum, “On the Piano Industry,” 15 October 1943. BT 64/1786. National Archives.

Overseas

5. Representatives can only be asked what prospects they have of renewing export. Their markets were largely in the Empire – but there is loyal production, e.g. in Australia and Canada, and competition from Germany and the United States.
6. Is there any possibility of improvement in construction which will help their competitive ability: is there any form of research on technical problems? There have been complaints that wood used in cases does not stand up to local conditions.
7. Did they benefit from Imperial Preference or other Trade Agreements?
8. Did they use E.C.G.D.? ⁴⁶¹

The questions show the main concerns of the Board of Trade. The Government was concerned about the time-frame for reconstruction; needs of new machinery, which could potentially be difficult to obtain because of material needs and ability to source the machinery from national sources; demand for pianos and whether or not there would be enough demand for the instruments to support the reopening of all of the piano companies; and the difficulty of the piano industry in sourcing its components from its ancillary suppliers (such as ironmongers and piano action makers) which may still be involved in war related work or have difficulties sourcing supplies.

The emphasis on exporting pianos demonstrates that the Board of Trade was inclined to increase piano exports. This in turn was part of a larger strategy to increase all exports in the post-war era in order to ensure Britain remained competitive in global markets. The push for exporting instruments would stay constant throughout the remaining war years and during the post-war years, but exports were never enough to sustain the industry.

The next step in the reconstruction planning of the Board of Trade during the war years was a meeting with representatives of the piano industry which took place on 30 July 1942.⁴⁶² Lord Forbes, member of the Industrial and Export Council of the Board of

⁴⁶¹ Export Credits Guarantee Department. This is the export credit agency and a ministerial department in the United Kingdom. Its objective is to help U.K. businesses export products to other countries therefore helping the British economy. Board of Trade internal documents, “Post-War Reconstruction, Pianofortes Industry,” circa May 1942. BT 64/1786. National Archives.

⁴⁶² Lord Forbes represented the Board of Trade. Piano Export Group representatives were: Mr. Whelpdale (Chairman of the Pianofortes Industry Export Group), Mr. Evans (Challen and Sons), Mr. Kemble (Kemble and Co.), Mr. Brasted (Brasted Bros., Ltd.), Mr. Ricketts, Mr. Healey (Pianoforte Supplies Association), Mr. Hurren (Secretary of the Pianofortes Industry Export Group).

Trade,⁴⁶³ was the Chair of the meeting. The purpose of the meeting was to discuss the readiness of the piano industry for post-war production. The main discussions were organised into the following categories: production, labour, conversion to peace-time production, machinery, organisation of productions, and research.

In regards to production, much of the discussion centred on the potential difficulty of obtaining raw materials after the war. The largest concern was that of timber. Most piano firms had sold their stocks of timber for war purposes and the firms that were granted nucleus certificates were quickly running out of their timber stocks, meaning no companies would have timber available for piano production at the end of the war.⁴⁶⁴ The industry informed the Board of Trade that the difficulty was not just in obtaining timber, but that the timber used in piano production needed to be seasoned for three years. If the industry was to restart production, the lifting of timber controls would need to happen three years before full production could resume.

The piano industry warned the Board of Trade that an emphasis on export trade in the post-war era would harm the industry. According to the piano company representatives, before the war export trade was never a large portion of the piano industries' revenue and sometimes the industry operated at a loss regarding exports; rather the piano industry relied on the home trade. The piano companies suggested that the Government should protect the British domestic piano market from being flooded by low-cost German pianos (similar to the situation after the First World War).⁴⁶⁵ If exporting pianos was to be a major part of the reconstruction plan, then the industry urged the government to create preferential tariffs for preference countries such as South Africa, Australia, and Canada.⁴⁶⁶

An important concern for both the Board of Trade and the piano industry was the availability of labour in post-war times. As the piano industry was a craft industry, the

⁴⁶³ "Lord Forres Joins Export Council" Glasgow Herald. 22 June 1940. 158th Year No. 150, pg. 6.

⁴⁶⁴ By July 1942 the Timber Control Orders had restricted the use of raw timber in the production of pianos. Piano firms were allowed to manufacture pianos using already manufactured or semi-manufactured parts, but no new timber components could be made.

⁴⁶⁵ According to the Pianoforte Export Group, although after the end of the First World War a 33⅓% import duty was enacted, this did little to stop the influx of German-made pianos into Britain. "Report of Meeting Held at Board of Trade on 30th July, 1942," *Pianoforte Trade Bulletin No. 26* (August 1942). BT 64/1786. National Archives.

⁴⁶⁶ "Notes of a Meeting Held at the Board of Trade on the 30th July to Discuss the Post-War Problems of the Pianoforte Industry," 30 July 1942. BT 64/1786. National Archives.

labour consisted of trained craftsmen. In order for the piano industry to restart, the craftsmen who had been reassigned to war production would need to obtain early release from their war work in order to return to the piano factories.⁴⁶⁷ The industry would not be able to produce pianos without the release of their pre-war workforce.

Even if the piano industry obtained the necessary supplies to build pianos and the labour force was returned to the factories, the industry cautioned that it would take at least six months for the industry to begin to supply. According to the representatives at the meeting, normal production had all but ceased and most firms were diverted to war production. Compounding this was the difficulty of machinery and tools. Those that had not been removed were used for other work and would need to be repaired, while other factories required new machinery, both of which would cause delay.⁴⁶⁸

The Concentration of Industries scheme was also discussed at the meeting. Although the industry had concentrated, production was quickly stymied because of the cessation of material supplies and some firms wanted to dissolve their concentration arrangements. Firms such as Kemble, which had significant war production contracts, saw no benefit in being concentrated with Buckland & Co., Ltd. and King Bros. Pianos Ltd. and requested having their agreement ended before the war.⁴⁶⁹ Although Kemble wished to end their concentration, other companies suggested that they may continue the arrangement after the end of the war and may remain so permanently.⁴⁷⁰

During the meeting and throughout the war years, the piano industry was encouraged by the Board of Trade to innovate through research and development. The Government believed that the research section of the piano trade was very disorganised and that the only way of assuring the future of the industry was if it became global leaders in piano technology. Overall the encouragement to invest in research was largely ignored by the piano industry. Piano firms were insistent that each company was responsible for

⁴⁶⁷ Labour movement and release was controlled by the Ministry of Labour. Workmen and women had to receive permission from this ministry if they wanted to change assignments.

⁴⁶⁸ "Notes of a Meeting Held at the Board of Trade on the 30th July to Discuss the Post-War Problems of the Pianoforte Industry," 30 July 1942. BT 64/1786. National Archives.

⁴⁶⁹ "Factual Survey of the Piano Industry Appendix B," March 1942. BT 64/1786. National Archives.

⁴⁷⁰ Mr. Whelpdale of Whelpdale, Maxwell & Codd suggested that their concentration organisation would continue after the war. This company was concentrated with John Broadwood & Sons Ltd., Sir Herbert Marshall & Sons, Ltd., and Vincent Manufacturing Co. Ltd. "Notes of a Meeting Held at the Board of Trade on the 30th July to Discuss the Post-War Problems of the Pianoforte Industry," 30 July 1942. BT 64/1786. National Archives.

their own innovations and their research was not shared with other firms.⁴⁷¹ The encouragement of the Board of Trade went against many of the piano making firms' belief that the piano had reached a "present degree of perfection"⁴⁷² and that the instrument did not need improvements. The industry tried to placate the Board of Trade by referring to the Music and Radio Trade School located at the Northern Polytechnic, Holloway Road as a research centre⁴⁷³ but the Board of Trade did not agree with this assessment.

The Board of Trade was concerned about the quality of "research" being done by the piano industry at the trade school and stated that "no scientists, or even junior ones, are employed by the industry." Furthermore, the school did not investigate how materials responded to climatic changes (which would be important if the industry wanted to expand their export market); nor did it teach any of the fundamentals of sound production, sound quality, seasoning of timbers, or properties of substitute materials.⁴⁷⁴ This assessment may have been slightly unfair, as the Institute of Musical Instrument Technology was attached to the school, but this institute's main work during the war years was on improving radios and developing an "electroponic piano." The Board of Trade suggested that the industry set up a Research Organisation but also realised that the poverty of the industry would be prohibitive in this endeavour. They suggested the industry combine with other trades to form a general Music Instruments Research Association.⁴⁷⁵ This advice was ignored.

As the piano industry insisted on individual firms conducting their own research, the Board of Trade would agree to release a small amount of controlled materials to select piano companies so that they could build experimental pianos and seven piano companies applied for this material in October 1943.⁴⁷⁶ Part of the requirements of the programme was that the experimental work could not interfere with essential war work

⁴⁷¹ "Meeting Minutes," 23 July 1943. BT 64/1786. National Archives.

⁴⁷² This is a quote from the piano industry contained in the "Brief on Post-War Reconstruction in the Piano Trade," April 1944. BT 64/1786. National Archives.

⁴⁷³ This school offered training to boys aged 13 to 16 and 16 to 18 where students were trained in making and repairing pianos, organs, and band instruments. "Meeting Minutes," 23 July 1943. BT 64/1786. National Archives.

⁴⁷⁴ R.E. Postgate, memorandum, 21 October 1943. BT 64/1786. National Archives.

⁴⁷⁵ R.E. Postgate, internal memorandum, 21 October 1943. BT 64/1786. National Archives.

⁴⁷⁶ S. A. Hurren to the Pianoforte Industries and Export Group, "Post-War Research," 16 October 1943. BT 64/1783. National Archives.

so the companies that participated were those who did not have extensive war production contracts. The firms and their proposed production included:

1. Whelpdale, Maxwell and Codd – production of one large grand and one overstrung model upright;
2. Chas. H. Challen and Sons – three grand pianos and three upright models;
3. Monington & Weston – six pianos with the firm's patent double iron frame;
4. Triumph Auto, Ltd. – six pianos;
5. Brasted Bros., Ltd. – six overstrung minipianos;
6. Danemann and Co., - three grand pianos and three upright overstrung pianos;
7. John Broadwood and Sons, Ltd. – three uprights and four grand pianos.⁴⁷⁷

Although the Board of Trade approved of the manufacture of these experimental pianos, it took a long time for the materials to be released to the companies and for the companies to begin building the instruments. For example, the copper requested by the piano firms was not released until January 1944⁴⁷⁸ and Broadwood and Sons did not begin building their experimental grand piano until October that year.⁴⁷⁹ The impact of this small research programme is unclear. Broadwood experimented with building instruments with a lighter metal frame, but ultimately the design was rejected and whether the other six piano companies were able to improve their instruments is unknown.

The encouragement from the Board of Trade to invest in research during the war years was excellent advice, but the advice was largely ignored by the piano industry as a whole. The industry's resistance to innovation would prove to be detrimental to its position in the global piano market in the post-war era.⁴⁸⁰

⁴⁷⁷ S. A. Hurren to E. A. Fisher, letter, 4 November 1943. BT 64/1783. National Archives.

⁴⁷⁸ E. A. Fisher to S. A. Hurren, letter, January 1944. BT 64/1783. National Archives.

⁴⁷⁹ "Minutes of the Board Meeting held on Thursday 19th October 1944," *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4. Surrey History Centre.

⁴⁸⁰ American piano companies and band instrument manufacturing companies invested in product and material research during the war years. These firms were then able to incorporate the results of this research into their products after the war ended. The innovation in design helped these companies in the post-war era and much of these advertising focused on the integration of new technology. See Sarah Deters Richardson, "Instruments of War: The Impact of the Second World War on the American Music Industry." (Master's thesis: University of South Dakota, 2010).

Post-war piano production estimates

In May 1943, the Pianoforte Industries and Export Group was asked by the Board of Trade to provide an estimate of post-war production. S. A. Hurren wrote to E. A. Fisher with the estimates on 28 June of that year. The estimates were based on pre-war manufacturing levels and with the idea that the British public would have a strong demand for instruments once the war was over. The industry estimated that 18 months after the cessation of hostilities that materials for 50,000 pianos would be required in the first year in order to allow timber to season and to build up stocks. Without this, the industry would not manufacture efficiently.

Hurren indicated that some of the piano manufacturers which maintained stocks of wooden components would be able to return to production immediately after they received a supply of vital parts such as iron frames, steel wires, and the return of their labour force. Other factories would be in a position to resume manufacturing within six months. It was estimated that factories which had completely converted to war work or were shut down during the war may take twelve months or more to resupply and retool their factories. In his estimate, Hurren emphasised that the recovery of the piano industry was contingent upon the removal of the Purchase Tax – without the retraction of this tax home sales would be crippled.⁴⁸¹

⁴⁸¹ S. A. Hurren to E. A. Fisher, letter, 28 June 1943. BT 64/1786. National Archives.

Estimate of materials needed to restart the piano industry

Section 1 Timber

Soft Woods	3154 Petersburg Standards ⁴⁸²
Hard Woods	137,500 cubic feet
Veneers	10,000,000 feet super ⁴⁸³

Section 2 Metals

Iron	5,100 tons
Steel (including wire)	750 tons
Copper	165 tons
Lead	120 tons
Brass	90 tons

Section 3 Textiles, etc.

Backing cloth	90,000 yards
Baizes, etc.	7,200 yards
Bushing cloth	3,600 yards
Woven Cloth	1,920 yards
Leather (doe or sheep)	19,800 sq. feet
Leather (real morocco)	19,800 sq. feet
Celluloid	27 tons

Section 4 General

Merchandise

Methylated Spirit, French Polish, Varnish, Bronze Powder, Screws, Bolts, Glue, Oils – mineral and vegetable, Plastics for black keys.

Table 10. Estimates sent from S. A. Hurren to E. A. Fisher for the materials needed to restart the piano industry at the end of the war. S. A. Hurren to E. A. Fisher. "Approximate Requirements for the Manufacture of Fifty Thousand Complete Pianofortes for Home and Export, and Components for Export to Make a Further Ten Thousand Abroad." 29 June 1943. BT 64/1786. National Archives.

⁴⁸² A Petersburg Standard is a unit of timber measurement. It equals 120 pieces of timber measuring 6 feet long by 11 inches wide by 3 inches high and equals 165 ft. cube. Bernard E. Jones, *The Practical Woodworker: The Complete Guide to the Art & Practice of Woodworking Vol. 1* (Berkeley: Ten Speed Press, 2000), 191.

⁴⁸³ One superfoot is a measurement of timber equalling one foot long by one foot wide by one inch thick. Judith A. Bennett, *Pacific Forest: A History of Resource Control and Contest in the Solomon Islands, 1800-1997* (Cambridge: The White Horse Press, 2000), xi.

The amount of materials needed for the conversion of the piano industry was estimated for 50,000 instruments for both the home and export trade with additional components for the manufacture of 10,000 pianos to be made abroad.⁴⁸⁴ Although this estimate was based on the manufacturing numbers of 1938 (when the piano industry had already suffered decline in both domestic and export sales),⁴⁸⁵ the numbers were incredibly hopeful. The restarting of the industry would be at the mercy of the Government's release of labour and materials for luxury goods production, as well as the suspension of the Purchase Tax.

The Problem of Labour

A large issue prohibiting the restarting of production was the release of skilled craftsmen and technicians from military service and from war production work in other factories. In total the piano industry estimated that the number of skilled workers needed to return to the trade would be approximately 5,000 skilled and 1,000 unskilled men.⁴⁸⁶ Interestingly, the piano companies did not include the use of women workers in the estimates even though women were currently working in their factories doing war production work. It appears that at the time of the Board of Trade meeting the piano firms were preparing to release these women workers instead of training them for piano manufacturing.

In a response to the piano industries' estimates, the Board of Trade explained that there would be no possibility of securing the release of anything like 6,000 people all at once.⁴⁸⁷ Instead, the Board of Trade suggested meeting with the industry to inform them about demobilisation and the formula the Government had created to release labour.⁴⁸⁸ This formula was created to prevent a repeat of the problems that occurred at the end of the First World War. At that time, men were quickly released en masse and without thought to whether there were jobs available to them, which caused massive unemployment and contributed to the economic depression in the interwar

⁴⁸⁴ The piano components would be used by factories making pianos in Australia and South Africa where piano companies such as Alfred Knight supplied other piano companies with piano parts.

⁴⁸⁵ According to M. E. Ricketts of Chappell Piano Company, the British piano industry saw a decline in piano production beginning in 1937 when it produced 6,507 fewer pianos than in 1936. In 1937 the industry produced 53,752 instruments. M. E. Ricketts, "The Outlook of the Pianos Industry: Paper Prepared by Mr. M. E. Ricketts (Chappell Piano Co)," *Music Trades Review*, June 1938, 186-190.

⁴⁸⁶ S. A. Hurren to E. A. Fisher, letter, 28 June 1943. BT 64/1786. National Archives.

⁴⁸⁷ Mr. Binney to Mr. Postgate, memorandum, 3 November 1943. BT 64/1786. National Archives.

⁴⁸⁸ Ibid.

years. In order to offset this potential problem, the Government created a demobilisation scheme.⁴⁸⁹

The demobilisation scheme consisted of a formula for releasing men and women from military service and war production work. The formula was not based on the length of service of the individual nor did it take into account the individual's skills; instead it focused on the individual's age. In the formula, each year of a person's age equalled two months of service. People who had "served" the longest (but in actuality were the oldest) were given a ranking of "Class A" and were to be released first. In all, servicemen were divided into 28 hierarchical levels of rankings and those at the lowest level (in other words the youngest) were to be released from service last. The release of labour would happen in two main stages: the first being the end of the war in Europe followed by the end of the war in the Pacific. The two-stage end to the war would slow the rate of release of labour from the armed services and from war production factories and would allow for released labour to be absorbed into civilian production.⁴⁹⁰

Overall, this plan worked with the first stage of labour release beginning after the surrender of Germany on 7 May 1945 and the second phase beginning after Japan's surrender on 15 August 1945. The actual release of labour was a complicated process and one about which there was dissent. The largest complaint revolved around the discrepancies between the rate in which factory workers were released compared to military personnel. For example, twice as many munitions workers were released after August 1945 than those serving in the military.⁴⁹¹ This led to resentment in military servicemen who sometimes saw factory workers as those who avoided the perils of war. In addition, young men serving in the military believed they were being unfairly treated as older men were being released first and had priority over the available domestic jobs.⁴⁹² That being said, by June 1946, 3.7 million men and women had been released from the armed forces and by December of that year demobilisation of the

⁴⁸⁹ Rex Pope, "British Demobilisation After the Second World War" *Journal of Contemporary History* 30:1 (1995): 75.

⁴⁹⁰ Ibid, 68-69.

⁴⁹¹ The difference in the rate of release was one of practicalities. With the end of hostilities, it no longer made sense for the Government to maintain a large munitions programme and these factories became idle. The logistics of returning large number of men and women from overseas added to the delay in releasing military service men.

⁴⁹² Pope, 73.

military was largely completed with a total of over 4.25 million people released from service.⁴⁹³

The formula for releasing labour back to domestic production would impact piano companies' ability to rehire former employees. Most piano makers who served in the military or were engaged in other essential war work were not able to return to the piano factories until one year after the war had ended. It must be said, this does not take into account the number of men who died while fighting.

In addition to the formula for releasing labour from war work, the Board of Trade and the Ministry of Labour and National Service began working on procedures for determining priority release from war work for individuals needed to restart other industries. These employees would need to be considered "key workers" who were absolutely necessary for reconversion. The industries chosen for priority reconversion needed to be designated as an "essential civilian requirement" and would have their employees given a higher priority for release. Unfortunately, pianos remained categorised as "luxury" items and the employees would not receive this benefit. In addition, the Board of Trade did not want piano firms to compete for raw materials with essential manufacturers. The Board of Trade was most concerned with piano producers competing for materials with furniture makers, particularly companies making furniture under the Utility Scheme. In an internal memorandum of the Board of Trade regarding the use of materials in furniture and piano production the author, Miss Cohen, mentioned that:

...neither the existence of the priority list nor this fact should be communicated to the [piano] industry or to anyone who is likely to let it out. But there would be no harm in letting it be known that we attach more importance to an early increase in utility furniture production than to a resumption of piano production.⁴⁹⁴

The movement of much of the piano industries' labour force to war production work rekindled many of the workers' desire to strengthen labour unions. As the Board of Trade was exploring the reorganisation of the industry, the relationship between piano manufacturers and union representation was raised. This was done by the National

⁴⁹³ Ibid, 75.

⁴⁹⁴ Miss R.I. Cohen to Mr. Postgate, memorandum, 3 January 1944. BT 64/1786. National Archives.

Amalgamated Furnishing Trades Association (N.A.F.T.A.), a union which represented piano makers.⁴⁹⁵ A.G. Tomkins, the general secretary of N.A.F.T.A., sent a letter to H.A.R. Binney of the Board of Trade on 18 May 1943 in regard to post-war problems of the piano industry. The letter asked for the Board of Trade to include union representatives in future meetings with the piano industry as it was “unlikely the Piano Trade Export Group will invite our co-operation.” Tomkins wrote that “up until 1926 the trade was closely organised...” but the relationship between piano manufacturers and union representatives had collapsed after the General Strike of 1926⁴⁹⁶ which was subsequently followed by a labour dispute and strike in 1927. The piano industry had not had contact with the union since 1927.⁴⁹⁷ The unions wanted to be included in any additional meetings regarding the restart of the piano industry. The Board of Trade responded that they would be obliged to invite the union representatives but had no intentions of proceeding or mitigating the relationship between the two. Although the union did not believe the piano industry would welcome its presence, S. A. Hurren was mentioned as saying that although there had been difficulties in the past, he was confident that his organisation would be ready at this time to co-operate with the N.A.F.T.A.⁴⁹⁸ This resulted in N.A.F.T.A. and other associated unions forming the Piano Workers Joint Committee, a group of four to five representatives who attended meetings of the Board of Trade in regards to the reconstruction of the piano industry.⁴⁹⁹

⁴⁹⁵ The National Amalgamated Furnishing Trades Association was just one of the unions which represented piano workers. The workers were often represented by labour groups associated with their particular job. N.A.F.T.A. represented men involved in carpentry, the United French Polishers Society represented French polishers, and the Iron and Steel Trades Confederation represented workers involved in making iron frames. The various groups were organised under the Trades Union Congress.

⁴⁹⁶ The General Strike of 1926 lasted nine days and began on 4 May 1926. The strike was called in solidarity of coal miners who were in a dispute over wages. It was the only general strike in British history. Although it was considered a failure, the strike did cause tension between business owners and union leaders as it showed the potential power of organised unions. A. G. Tomkin to H.A.R. Binney, letter, 18 May 1943. BT 64/1786. National Archives.

⁴⁹⁷ “Note of interview with A. G. Tomkin 26/11/43,” 26 November 1943. BT 64/1786. National Archives.

⁴⁹⁸ “Internal correspondence of the Board of Trade,” 15 October 1943. BT 64/1786. National Archives.

⁴⁹⁹ E. A. Fisher to A. G. Tomkins, letter, 12 April 1944. BT 64/1786. National Archives.

Emphasis on Export Trade in Post-War planning

Throughout the correspondence between the Board of Trade and the Pianoforte Industries and Export Group the discussion of export trade was a recurrent theme. The piano industry consistently warned the Board of Trade that relying on exporting pianos was not a viable business option for an industry which was dependent on domestic sales. Although warned, the Board of Trade continued to push for the piano industry to increase exporting pianos in the post-war years while simultaneously prohibiting domestic production.

Britain's government pushed its manufacturers to export items for a number of reasons. First and foremost, the country needed the influx of money, and second, Britain was trying to stay competitive against the USA, which was emerging as a major manufacturing power and as a world competitor.⁵⁰⁰ To push manufacturers to export their products, the U.K. government continued to control the domestic market through rationing, which would reached its height in 1948.⁵⁰¹ Although the Government coerced manufacturers into export production through rationing, the reality was that in the post-war years shortages in labour and materials stymied the growth of all production.

Overall, British producers historically exported mainly to countries which used the pound sterling. These countries are generally considered to be the "Imperial Preference"⁵⁰² countries and in the early post-war years these countries were given preferential import and export tax rates. Although Britain was desperate to sell products for dollars, it was difficult to break into the North American market and as a result, Britain continued to sell products to British colonies or countries in the Commonwealth during the war and in the immediate post-war years.⁵⁰³ British industry initially benefitted from the cessation of German production in the early post-war years but as that country recovered, largely thanks to help from the Marshall

⁵⁰⁰ Paddy Maguire, "Design on Reconstruction: British Business, Market Structures and the Role of Design in Post-war Recovery" *Journal of Design History* 30:2 (1991): 15.

⁵⁰¹ Ibid, 23.

⁵⁰² A term used by Maguire and designative countries with direct trading ties to the United Kingdom, usually as a result of being a former colony, current colony, dominion, or under the protectorate.

⁵⁰³ Maguire, 22.

Plan,⁵⁰⁴ Britain's exports to continental Europe diminished.⁵⁰⁵ This was compounded by the import of American products to these countries. The overall effect was that in the post-war years Britain relied more on exporting items to Commonwealth countries than to its European neighbours, as can be seen in the table below.

U.K. Exports		
Percentage of U.K. Exports	1935	1951
Commonwealth	48.0	55.5
Canada	5.2	5.3
Australia	6.9	12.6
New Zealand	3.2	4.3
South Africa	7.9	6.4
Rhodesia	0.6	1.5
West Africa	2.2	3.0
Kenya	0.4	1.0
India, Burma, Pakistan	8.9	6.7
Malaya	1.7	3.4
Hong Kong	0.6	1.4
Non-commonwealth	52.0	44.5
Western and Southern Europe	19.2	13.9
Scandinavia	8.2	10.0
Eastern Europe	3.3	0.6
European Colonies	2.2	1.9
United States	5.4	4.3
Central and South America	7.5	6.2
Others	6.4	6.5

Table 11: Comparison of U.K. export values to commonwealth and non-commonwealth countries in 1935 and 1951. Figures compiled by the author from Maguire, "Design on Reconstruction: British Business, Market Structures and the Role of Design in Post-war Recovery" *Journal of Design History*, 23.

Second Hand Piano Sales

During the war years the Board of Trade explored different scenarios that would aid the failing piano industry and provide revenue to piano manufacturers as they waited for materials to produce new pianos. One option was for piano companies to

⁵⁰⁴ The Marshall Plan was a U.S. Government initiative which allowed for the American Government to grant or loan money to war affected countries so that they could rebuild their industry and more quickly recover from the war. The plan based the European recovery on four main objectives: (1) a strong production effort by each nation, (2) internal financial stability, (3) cooperation among participating governments, (4) solution of external deficits by increased exports. Mallalieu, 62.

⁵⁰⁵ Maguire, 23.

recondition instruments that were no longer needed by the Entertainments National Service Association (E.N.S.A.). The idea was that as the war wound down, pianos which had been sent to military bases and canteens on British soil would no longer be needed as those sites would be phased out. These pianos could be sent to piano firms for reconditioning, which would be in accordance with material restrictions, and the instruments could then be sold at controlled prices to the domestic market.⁵⁰⁶ Although this scheme would bring in needed revenue for the industry as it waited for the return of its workforce and raw materials, E. A. Fisher warned that the industry may not take kindly to the idea of flooding the market with cheap, used pianos right at the end of the war.⁵⁰⁷ This was a large concern of the industry, but as material restrictions continued to halt the production of new pianos in the post-war years, reconditioning E.N.S.A. pianos (as well as instruments from N.A.A.F.I.) and other used pianos to be sold to the domestic market would become the primary source of income of many piano manufacturers.

The Federation of British Industries: A New Champion for the Piano Industry?

In addition to the Board of Trade, the Federation of British Industries (F.B.I.)⁵⁰⁸ began investigating the reconversion of the piano industry in 1943. This was part of the research the F.B.I. was doing in regard to the rehabilitation of industries which had been concentrated during the war. To gather information on the impact of concentration and the steps that would be necessary to convert to domestic production and de-concentrate industries, the organisation sent a questionnaire to S. A. Hurren of the Pianoforte Industries and Export Group in October 1943.⁵⁰⁹

The questions were as follows.

1. Are any special difficulties likely to be experienced in re-opening the factories of closed firms in your trade due, for example, to exceptional structural alterations having been made by the occupants of the factories released or to special agreements or leases extending beyond the period of hostilities?

⁵⁰⁶ Board of Trade, "Internal memorandum," 25 October 1943. BT 64/1786. National Archives.

⁵⁰⁷ Board of Trade, "Internal memorandum," 28 October 1943. BT 64/1786. National Archives.

⁵⁰⁸ The F.B.I. was a non-governmental organisation and represented the interests of the U.K. businesses. The organisation promoted business interests and lobbied the Government on behalf of pro-business initiatives.

⁵⁰⁹ It is likely that the F.B.I. sent similar letters to an assortment of industries across Britain. S. A. Hurren to the Pianoforte Industries and Export Group, memorandum, 15 October 1943. BT 64/1786. National Archives.

2. In the case of concentration schemes covering a whole trade:
 - a. Does the scheme laid down in the compensation or similar agreement provide for the re-opening of closed factories, and, if so, on what terms?
 - b. Does it provide for the re-allocation of controlled raw materials within the trade after the close of hostilities to permit (i) closed firms to restart, and (ii) all firms to expand output in some orderly manner?
3. Have any preparatory arrangements been made to secure the return of requisitioned labour?
4. Will any special financial assistance be needed before the closed-down firms can re-start operations?
5. Would any closed down firms be likely to consider favourable proposals for re-opening in other and less congested areas in accordance with some national post-war location of industry plan? And, if so, how would the rest of the industry react to such a suggestion?
6. Has your industry made any general – or detailed – examination of the probable post-war situation that will arise, and, if so, have any suggestions been made for dealing with it?
7. Has your association any suggestions to make for dealing with de-concentration as a national problem?⁵¹⁰

Hurren took the interest of the F.B.I. in the piano industry as a positive sign and sent out the questionnaire to the members of the Pianoforte Industries and Export Group. He also called an extraordinary general meeting of the group to address the questionnaire and members were optimistic that the F.B.I. would be able to help piano manufacturers in their reconversion. The questions asked by the F.B.I. emphasised many of the issues that the piano industry had been addressing with the Board of Trade throughout the war years, including the return of labour and the allocation of controlled raw materials. The interest of the F.B.I. in the piano industry was especially important to the piano firms which had been closed because of the Concentration of Industry Scheme.

Unfortunately, Hurren was overly optimistic about the interest of the F.B.I. in the piano industry. According to correspondence in the Board of Trade papers, the questionnaire sent to Hurren was not meant to be shared with the entire industry, but was more in the way of a “personal enquiry and certainly not one for consideration by firms in the industry.”⁵¹¹ Hurren’s eagerness to find a champion for the piano industry ultimately failed as the F.B.I. assured the Board of Trade that they would explain the scope of the

⁵¹⁰ Ibid.

⁵¹¹ Internal Memorandum to Mr. Postgate, 6 November 1943. BT 64/1786. National Archives.

enquiry to Hurren and that the Board of Trade would “not hear more of it” in the future.⁵¹²

Board of Trade Meeting April 1944

On 28 April 1944 the Board of Trade met for the second time with the piano industry.⁵¹³ Lord Forres was again the chair of the meeting and it was attended by both members of the Pianoforte Industries and Export Group⁵¹⁴ and union representatives. The piano industry sent pre-chosen representatives including three people from piano manufacturing companies and four from the piano supply industry.⁵¹⁵ Unions associated with the piano industry in the past, or interested in unionising sections of the workforce, were also invited to send representatives to the meeting.⁵¹⁶ Representatives from the Amalgamated Society of Wood-working Machinists, Amalgamated Society of Wood-workers, National Union of Musical Instrument Makers, National Amalgamated Furnishing Trades Association, and the United French Polisher’s Society were in attendance.⁵¹⁷

It is interesting to note the breakdown of interested parties at the meeting. Six people were present from the Board of Trade, one from the Ministry of Supply,⁵¹⁸ three piano manufacturers, four representatives of the piano parts and suppliers industry, and six union representatives. The large showing from the unions is indicative of how much the unions wanted to re-establish themselves within the piano industry.

⁵¹² Ibid.

⁵¹³ The first meeting took place in July 1942.

⁵¹⁴ The Pianoforte Industries and Export Group was enlarged on 3 February 1943 to include manufacturers of parts and supplies and was considered by the Board of Trade to be thoroughly representative of the entire industry. “Brief on Post-War Reconstruction in the Piano Trade,” April 1944. BT 64/1786. National Archives.

⁵¹⁵ R. P. Brasted (Brasted Brothers), M. F. Ricketts (Chappell Piano Company), A. W. Whelpdale (Whelpdale, Maxwell & Codd) represented the manufacturers and H. Brinsmead, W. Caite, A. E. Healey, and E. J. Hughes representing the suppliers.

⁵¹⁶ E. A. Fisher to Mr. Tomkins, memorandum, 12 April 1944. BT 64/1786. National Archives.

⁵¹⁷ These unions were all part of the Piano Workers’ Joint Committee, “Agreed Minutes of Meeting at the Board of Trade,” 28 April 1944. BT 64/1786. National Archives.

⁵¹⁸ This was a representative of the Directorate of Woodworking.

At the start of the meeting Lord Forres gave a status summary on the industry and introduced the objective of the meeting.

Since 1942, apart from the provision of pianos for N.A.A.F.I. and E.N.S.A. and a small amount of repair and reconditioning by non-transferable labour, the piano trade has been closed down. Some of the works, however, now engaged on war contracts, are still under their piano trade managers. The Board of Trade's object in this meeting is to obtain the views of the trade on the problems of reconstruction after the war.⁵¹⁹

Many of the same complaints and concerns that were raised in the 1942 Board of Trade meeting were again voiced by the piano industry during this meeting. This included the concern over the Board of Trades' insistence on relying on exports, questions to the supply of raw materials – most especially wood which needed to be seasoned – the Purchase Tax and its potential crippling effects on post-war production, and the release of labour for piano production.

The manufacturers all agreed that pianos released by the N.A.A.F.I., E.N.S.A., and the American Forces would all be welcomed to the piano industry for repairs and reconditioning. The piano industry did emphasise that if instruments were in the London area then they would want to evenly spread the work throughout the manufacturers, but the manufacturers were worried about the cost of transport versus the profit margin obtained through sales. That said, the industry agreed that the work would be very welcome revenue after the end of the war in the period in which the manufacturers were waiting for supplies of raw materials.

The piano industry was informed by H. Freeman, the Directorate of Woodworking, that there would be no guarantee of adequate supplies of timber in the early post-war period. The manufacturers accepted this news but warned that this would greatly hamper any post-war planning of production. The industry, along with the union representatives, urged the Government to consider felling hardwood trees now and storing them for future civilian requirements. This would allow wood, such as beech, to begin to season in the interim and might expedite manufacture once timber controls were lifted. This suggestion was not followed by Freeman.

⁵¹⁹ "Agreed Minutes of Meeting at the Board of Trade," 28 April 1944. BT 64/1786. National Archives.

With such a large showing from trade unions, labour discussions were a significant part of the meeting. Mr. Tomkins, representing the National Amalgamated Furniture Trades Association, said that the labour disputes and resulting strikes of 1926 and 1927 had been “unfortunate” and that the organisations wanted to reopen discussions with manufacturers. The various unions were proposing a National Joint Industrial Council to be created that would represent piano workers. The Board of Trade was favourable to the establishment of this council, but piano manufacturers were less so. Although the manufacturers were “anxious” to establish relations with the trade unions, they were hesitant to agree to a joint council as they did not know what unions their employees would belong to once they returned from war. They thought that this was not the right time for linking up with a Joint Industrial Council and would instead prefer to link up with the National Union of Musical Instrument Manufacturers once their labour force had returned.

Finally, once again the Board of Trade urged the piano industry to invest in research and development. The piano industry indicated that the cost of investing in research was not possible given the current status of the industry. The industry was warned that “research was not a thing which should be sampled in half measures” and that they should “promote a fully equipped research organisation or be left behind.”⁵²⁰ It appears that the stern warning from the Board of Trade did not fall on deaf ears. In a February 1945 editorial in the *Music Trades Review*, Eugene Sotheran reported that the industry set up a research committee to “help with the transition back to civilian production” and that “methods and materials derived from war experiences will be doubtlessly be introduced.”⁵²¹ Although Sotheran sounded optimistic in his writing, no mention of the research committee is included in subsequent issues of the trade magazine.

The piano industry was supported in its desire to have the Purchase Tax lifted by the trade unions. The industry projected that there would be a demand for instruments in the post-war years in the home market, but with the Purchase Tax, that demand would be completely stunted. The industry insisted that people could not afford a piano with a 100% tax and the British public would only be able to afford second hand pianos.

⁵²⁰ “Agreed Minutes of Meeting at the Board of Trade,” 28 April 1944. BT 64/1786. National Archives.

⁵²¹ Eugene Sotheran, “Full Speed Ahead,” *Music Trades Review*, February 1945, 115.

Piano producers and retailers suggested that if the tax continued, only 10% of the projected pianos that could be produced would be sold in the home market. In addition, keeping a 100% Purchase Tax on the home trade would negatively affect the export trade. According to Hurren:

No piano manufacturer can run his factory on the basis of only 10% of the normal Home Trade even if his output be augmented by the Export Trade (which has never exceeded 15% of total production). Unless the Purchase Tax is abolished the manufacturer will have to close down. Moreover, without a substantial Home Trade the manufacturer cannot produce his goods at a price which will enable him to compete in the export market and it is therefore useless to talk of boosting exports, unless the Home Trade is encouraged.⁵²²

He went on to say that “It cannot be too strongly emphasised that the present tax of 100% will kill the industry.”⁵²³

It was impossible for the Board of Trade to respond to the piano industry in regard to the Purchase Tax at the time. Firstly, the country was still at war and although the allies had just landed in Normandy for D-Day,⁵²⁴ the prognosis of victory was not certain and the need for materials for war production was at an all-time high. Secondly, pianos were still considered a luxury item and as W. E. Parker put it in an internal memorandum “I do not know how important it is that pianos should receive special consideration in advance of the products of other industries.”⁵²⁵ In other words, pianos were just not that important on the list of Board of Trade priorities.

The response given to the industry was a diplomatic one. The Board of Trade told the industry that they were not able at this time to give a firm answer to when the Purchase Tax would be repealed but the Board would bear the industry’s view in mind when making decisions. The Board of Trade advised the industry that the Purchase Tax would continue for some time after the armistice with Germany and the industry should prepare for alternative post-war plans.⁵²⁶

⁵²² S.A. Hurren to the President of the Board of Trade, “Purchase Tax,” 24 May 1944. BT 64/1786. National Archives.

⁵²³ Ibid.

⁵²⁴ The allied invasion began on 6 June 1944.

⁵²⁵ W. E. Parker, memorandum, “Purchase Tax on Pianos,” 19 June 1944. BT 64/1786. National Archives.

⁵²⁶ E. A. Fisher to S. A. Hurren, letter, “Purchase Tax,” 24 June 1944. BT 64/1786. National Archives.

Preparing for Reconversion

S. A. Hurren maintained his constant letter writing campaign to the Board of Trade throughout 1944. In his correspondence, he asked about the Purchase Tax, labour release, factory release, material release and many other items in hopes of learning what the Board of Trade had in mind in regard to restarting the industry. As piano manufacturers resigned themselves to focus on exporting pianos as a main source of revenue in the post-war era, Hurren began writing about export priority.

Hurren was worried that even though the industry was forced to rely on the export trade they would still be hampered by difficulties in obtaining materials and labour in order to build their products for export. He wrote to E. A. Fischer in June 1944 requesting information on the possibility of the piano industry receiving post-war priority for the release of materials and labour. In his letter, he complained about how the industry was forced into a drastic concentration scheme only to be closed down just a few months later and how the piano industry had received no compensation for its losses. In addition, the industry had difficulties in obtaining war contracts because their labour had been largely moved to other industries. The firms which did receive contracts had trouble completing the work because most of their labour was again moved before the contracts were completed.⁵²⁷ He thought it only appropriate that the Board of Trade should compensate the industry by giving it priority in post-war reconstruction.⁵²⁸ The Board of Trade's response was a firm "no." Fisher reminded Hurren that the Board of Trade had to consider the entire post-war economy and that one individual industry, which employed a relatively small number of people, did not constitute an important enough position to be given priority. The piano industry would have to bide its time and wait for its turn.⁵²⁹

The end of the Second World War in May and September 1945 marked the beginning of the long road to normalising industry within the United Kingdom. Much of the reconversion of Britain's total war economy had been planned by the Ministry of

⁵²⁷ Hurren is referring to contracts to build pianos for E.N.S.A. in 1942 and 1943. Many of the piano companies who received E.N.S.A. contracts were unable to complete the work because their labour was transferred to war work with a higher priority or was sent into military service.

⁵²⁸ S. A. Hurren to E. A. Fisher, letter, "Post-War Priority," 14 June 1944. BT 64/1786. National Archives.

⁵²⁹ E. A. Fisher to S. A. Hurren, letter, 13 July 1944. BT 64/1786. National Archives.

Reconstruction, under Lord Woolton. This cabinet post was created by Winston Churchill in November 1943 to oversee the needs of the British people in the post-war years.⁵³⁰ The task of this ministry was monumental and it worked alongside the Board of Trade and the Ministry of Labour and National Service in designing the post-war economy. The Board of Trade was charged with organising industrial reconversion, as well as ensuring the needs of the civilian population. Within this large remit, the piano industry was a very minor concern.

The “Brief on Post-War Reconstruction in the Piano Trade” authored by the Board of Trade in 1944 shows that the Government was well aware of the obstacles in restarting the piano industry. The brief outlines the factors impacting the reconstruction of the trade and included concentration, lack of materials, release and retooling of factories, ending of government contracts, return of labour and training of new labour, and the Purchase Tax. The brief indicates that although the Government was aware of the needs of the industry, there was little it could do to help in the transition to post-war production as priorities lay elsewhere during a time of rationing and austerity.⁵³¹

The brief stated that at the end of the war much of the reconversion of the piano industry would be dependent on the speed at which other industries could return to normal production. For example, de-concentrating piano companies would be dependent on transferring labour out of factories that were taken over for war work. This labour could not be transferred until the men and women leaving war work had jobs to which to return and these jobs would need to be in industries which were given priority status. The companies which had their factories requisitioned would also need to wait to regain control of their premises as the same criteria was applied to the release of factory space as with labour. Piano companies whose premises had been turned over to other companies or government industries for war production needed to apply for the release of their factory space. This was done with The Control of Factory & Storage

⁵³⁰ Pelling, 183.

⁵³¹ “Brief on Post-War Reconstruction in the Piano Trade,” April 1944. BT 64/1786. National Archives.

Premises section of the Board of Trade.⁵³² Without permission from this organisation, piano factories could not begin the reconversion process.

The Board of Trade stated that the resumption of supplies would only occur gradually and seasoned wood would be in short supply for years to come. Compounding the lack of materials, the Machine Tool Control Division expected a heavy demand for replacement of woodworking machinery after the war and it would be difficult for the piano industry to obtain the necessary machinery. Because of these circumstances, the Board of Trade recommended that the piano industry would have to rely on refurbishing used pianos as its main source of domestic revenue in the post-war years. When raw materials eventually became available, the production of new instruments would be restricted to the export trade. The Board of Trade acknowledged that this would be difficult for the piano industry as exports had not been a large portion of the British piano market and that the industry faced challenges because they did not have representation in other markets and had relied mainly on exporting to Commonwealth countries in the past.⁵³³

The reconversion of the piano industry was a slow and at times a painful process. In the final year of the war, piano makers continued to advocate for better positioning within the Board of Trade's priority listing, but overall, the industry resigned itself to waiting for the reconversion process to begin. During this last phase of the war, companies without war production contracts focused their attention on reconditioning used pianos for the domestic market. A small victory for the industry was when they were able to have pianos recognised as "instruments of art" in the New General Furniture Order of August 1944. This designation meant that pianos would not be under the same regulations as other types of furniture and that companies would have the right to provide hire purchase agreements to customers.⁵³⁴ Another important facet of this designation was that reconditioned, restored, or rebuilt pianos would not be

⁵³² C. T. Cripps to The Control of Factory & Storage Premises, 6th June 1944. BT 64/1786. National Archives.

⁵³³ Ibid.

⁵³⁴ A hire purchase agreement allows a customer to "hire" an instrument over a set period of time and at the end of that period the instrument would be purchased. It is similar to "rent-to-own" or purchasing an item in instalments. This right had been removed from the piano industry by the Limitation of Supply Orders.

liable to the Purchase Tax in the domestic market. This exemption bolstered the piano industries' interest in selling second hand pianos.⁵³⁵ To reduce the possibility of price gauging, the maximum price of second hand instruments was set by the Board of Trade the following month.⁵³⁶

It appears that the Board of Trade was attempting to help the piano industry during the last year of the war when it informed the trade that it would consider applications for early resumption of manufacture for instruments to be sold in the export market.⁵³⁷ In January 1944, the Board of Trade's interest in starting a small export trade in pianos continued when it asked S. A. Hurren if any of the piano companies were able to supply grand pianos to be sold to Spain by June of that year. Out of the entire industry, only three companies were able to send an affirmative reply. Triumph Auto pianos said that they could supply three small grands.⁵³⁸ Monington & Weston was able to supply four grands, subject to the company obtaining the iron frames for the instruments.⁵³⁹ Cramer replied that the company could provide 15 instruments.⁵⁴⁰

Two piano companies, Chappell Piano Company and Challen & Sons, sent separate letters expressing their regret as to not being able to supply the instruments. The responses neatly summarised the difficult situation of individual piano firms and that even though the Board of Trade was well intentioned in trying to start piano manufacturing in a small scale, this was not possible unless material restrictions were lifted. Chappell wrote that although the company had nine grand pianos "laid down"⁵⁴¹ they only had five actions, two sets of keys, seven sets of hammers, and more importantly they had "no parts, no strings, and no frames." The company had been deprived of all of its working staff and had only seven elderly employees.⁵⁴² Challen

⁵³⁵ Eugene Sotheran, "Second hand Pianos – A New Order," *Music Trades Review*, August 1944, 261.

⁵³⁶ Eugene Sotheran, "In Defence of the Piano Dealer," *Music Trades Review*, September 1944, 295.

⁵³⁷ "Pianoforte Industries and Export Group: Resumption of Export," *Music Trades Review*, October 1944, 336.

⁵³⁸ S. A. Hurren to E. A. Fisher, letter, 15 January 1944. BT 64/1786. National Archives.

⁵³⁹ Monington & Weston to E. A. Fisher, letter, 8 January 1944. BT 64/1786. National Archives.

⁵⁴⁰ The term "grand piano" is a little misleading in this description and all of these instruments would today be called baby grands as the measurements given by the piano companies were between 4' 3" and 4' 7." S. A. Hurren to E. A. Fisher, letter, 15 January 1944. BT 64/1786. National Archives.

⁵⁴¹ This means that the wooden structure of the piano was complete. The rim was built and the internal wooden supports and the sound board were attached.

⁵⁴² The Chappell Piano Company, Ltd. to the Pianoforte Industries and Export Group, letter, 7 January 1944. BT 64/1783. National Archives.

wrote that after contacting the suppliers Herrburger Brooks Ltd. (action and key maker) and Crown Foundry Ltd. (iron frame maker) that those industries would not be able to obtain permission from the Ministry of Supply to provide parts to the piano industry on a reasonably large scale and that orders for small quantities would “not be entertained.” The company stated that it was unlikely that the piano industry would be able to restart in a small way because their suppliers would not provide parts.⁵⁴³

The Post-War Era

When the war finally drew to a close, the piano industry was at an impasse as it continued to wait to resume full production. At the end of the war the industry had been given permission to manufacture a limited number of instruments for export, but material rationing was in full force and even if a company was able to secure the materials needed to manufacture a piano for export, it was difficult to obtain an export licence. Domestically the Purchase Tax continued at the rate of 100% and production for the home market remained prohibited. The limitations place on the piano industry in the post-war era would hamper the piano industry’s recovery for many years to come.

Exports

As previously stated, the Board of Trade encouraged the piano industry to prepare to manufacture pianos for export in the post-war era. To help the industry increase their export numbers, as of 19 February 1945, pianos were no longer controlled under the Export of Goods (Control) Orders and a limited amount of materials were made available to the industry to manufacture pianos for export.⁵⁴⁴ Additionally, the piano

⁵⁴³ Chas. H. Challen & Son, Ltd. to the Secretary, Pianoforte Industries and Export Group, letter, 7 January 1944. BT 64/1783. National Archives.

⁵⁴⁴ The article in the *Music Trades Review* mentions that the piano industry would no longer be required to apply for export licences unless the pianos were consigned to enemy territory or occupied territory or the following destinations: Andorra, Burma, China, Liechtenstein, Portugal, Madeira, the Azores, Cape Verde Islands, Rio de Cro, Spain, Canary Islands, Spanish Morocco, Sweden, Switzerland, Tangier zone, Turkey, the Hatay (a disputed region between Turkey and Syria), and the U.S.S.R. Although the announcement states that licences were no longer necessary, over the next three years the trade publication would publish articles noting the difficulty of the industry in receiving export licences. “Late Association News,” *Music Trades Review*, February 1945, 134.

industry was able to retain labour made redundant by the completion of war production contracts as long as the retained men were manufacturing pianos for export.⁵⁴⁵

The provisions granted to the industry for the manufacture of pianos for export were a source of frustration. According to Eugene Sotheran, although the industry was granted permission to manufacture 10,000 pianos for export, there was no guarantee from the Board of Trade that export licences would be granted. Materials continued to be difficult to obtain and the timber allotted for the manufacture of pianos was totally “unsuited to the purpose as it was unseasoned and of poor quality.”⁵⁴⁶

In March 1946 the inability of the piano industry to sell their newly made pianos overseas because of the lack of export licences culminated in the publication of an open letter to the Prime Minister, Clement Attlee, printed in the *Music Trades Review*. The letter addressed the lack of export licences provided for the industry and stated that although thousands of pianos had been produced, only “less than one hundred had left Britain, with the remainder taking up valuable space in factories waiting to be shipped.”⁵⁴⁷ Surprisingly, the open letter yielded results and in 1947 the industry was granted an increase in export licences.⁵⁴⁸ Interestingly, Sotheran’s claims that “less than one hundred pianos had left Britain” was a complete hyperbole. According to statistics printed in the *Music Trades Review*, in 1946 the piano industry exported 6,922 instruments. In 1947 piano exports increased to 11,341 instruments with the total value of £910,946.⁵⁴⁹ This is a dramatic increase in the exports of British pianos compare to the start of the war. Overall the export value for 1947 was nine times the value of pianos exported in 1939, when the piano industry exported 3,236 pianos valued at £100,973.⁵⁵⁰ The difference in the total value of exports between 1939 and 1947 also shows how the cost of a piano increased. In 1939 the average cost of a piano for export was £31.20 per piano, but in 1947 the average cost was £80.32 per piano.

⁵⁴⁵ Ibid.

⁵⁴⁶ Eugene Sotheran, “Piano Manufacturers Get Raw Deal,” *Music Trades Review*, September 1945, 377.

⁵⁴⁷ Eugene Sotheran, “An Open Letter to the Prime Minister,” *Music Trades Review*, March 1946, 191.

⁵⁴⁸ Eugene Sotheran, “New Pianos for the Home Market,” *Music Trades Review*, July 1947, 429.

⁵⁴⁹ “Export Statistics,” *Music Trades Review*, March 1948, 224.

⁵⁵⁰ “Extract from Volume II of the Annual Statement of Trade of the United Kingdom with British Countries and Foreign Countries.” BT 64/1786. National Archives.

In 1947 the Export Promotion Department of the Board of Trade reopened the British Industries Fair. The fair had been cancelled during the previous eight years but in order to promote British products, the fair ran from 5 to 16 May at Olympia and Earls Court, London.⁵⁵¹ According to Sotheran, a large number of piano manufacturers exhibited at the fair and their stands showed a variety of instruments including “a piano that utilised the bicycle break to the operation of the piano pedals, mini pianos in a variety of colours, and instruments that used materials that would ensure durability in tropical climates.” He commended piano manufacturers for showcasing their instruments “despite the lack of materials or incentive to even show up since production is still very limited.”⁵⁵²

⁵⁵¹ “1947 British Industries Fair: Listing of exhibitors,” Grace’s Guide to British Industrial History, accessed 19 November 2016, http://www.gracesguide.co.uk/1947_British_Industries_Fair.

⁵⁵² Eugene Sotheran, “A Wonderful Industry,” *Music Trades Review*, May 1947, 327.

Announcing
Britain's
Export
Trade Fair

BIF

1947

BRITISH INDUSTRIES FAIR

The first post-war British Industries Fair will be held in London and Birmingham from 5th—16th May 1947. The 1947 Fair will provide a great opportunity for expansion of Britain's Export Trade and intensive publicity campaigns will be launched to attract buyers from all parts of the world.

Musical Instruments United Kingdom manufacturers of Musical Instruments will, as in pre-war years, be exhibiting in the London Section of the Fair.

APPLICATIONS FOR SPACE

Since the demand for exhibiting space will be great, applications must be received at the earliest possible moment. Full details and forms of application are obtainable from the Board of Trade, Export Promotion Department, 35 Old Queen Street, London, S.W.1.

Figure 9. British Industries Fair advertisement, *Music Trades Review*, September 1946, 496.

Sotheran's mention of instruments that could ensure durability in tropical climates was a direct result of advances in materials gained from the war effort. These included heat resistant glues which had been developed for aircraft building and plastics which were

being used for keys and actions.⁵⁵³ Manufacturers who were using these materials included Kemble and Company whose listing in the British Industries Fair's catalogue and advertisements in the *Music Trades Review* listed "Tropical Models" as a speciality.⁵⁵⁴



Figure 10. Kemble advertisement. *Music Trades Review*, April 1947, 185.

⁵⁵³ J.C.G. Gilbert, "High-Frequency Heating, welding & glue," *Music Trades Review*, February 1945, 120.

⁵⁵⁴ "1947 British Industries Fair. Listing of exhibitors."

The efforts of the piano industry in their export sales did not go unnoticed by the Board of Trade and on 26 May 1948 the industry received a letter of thanks from Harold Wilson, president of the Board of Trade. In the letter Wilson wrote:

For some time past I have turned eagerly to the “Piano” entry on the export side of our monthly Trade Accounts as one of the brightest spots in the story of our export effort. Then the other day at the B.I.F. [British Industries Fair] I was able to see for myself some of the excellent products of your industry and to meet some of the members of your Group who were exhibiting there. I was very glad of this opportunity because it brought to life and strengthened the happy impression I had already formed from the figures.

I felt I should like to write and send through my thanks to the industry for all they are doing in these difficult days to add to our country’s earnings. The spirit of this industry in devoting its entire output to the export market and keeping the figures up in face of all difficulties is a fine thing to see and a noble example of what can be done.⁵⁵⁵

The export trade continued to increase in the post-war years and in 1948 the piano industry exported 13,297 pianos valued at £1,191,388.⁵⁵⁶ In May 1950 William Evans, President of the Piano Manufacturers Association, stated that the British piano industry could claim that it was responsible for 75% of the world’s export of pianos.⁵⁵⁷

Imports

Some of the growth of the export trade was a result of the reduction of restrictions and then revocation of the Trading with the Enemy Act in July 1946.⁵⁵⁸ But, as the British piano industry was able to export to expanding markets, the country also began to increase imports. As imports increased, piano manufacturers began to worry about potential competition from imported pianos from foreign manufacturers.⁵⁵⁹ These

⁵⁵⁵ “President of the Board of Trade says ‘Thank You’ to the Industry,” *Music Trades Review*, June 1948, 377.

⁵⁵⁶ “Piano Manufacturers Association General Meeting” *Music Trades Review*, April 1949, 291.

⁵⁵⁷ “Impressions of the A.G.M. of the Piano Manufacturers Association,” *Music Trades Review*, May 1950, 367.

⁵⁵⁸ In November 1945 the Government reduced the restrictions of trade by 45% of the list of forbidden countries. In July 1946 the remaining countries on the list of “enemy” countries were removed. The United States and France agreed to similar measures at the time. The removal of the Trading with the Enemy Act was part of the stipulations of the Marshall Plan and was done in an effort to normalise trade with Europe and to rebuild the economies of combatant states. “Trading with the Enemy: Withdraw of Statutory Lists” *Music Trades Review*, August 1946, 450.

⁵⁵⁹ “Board of Trade internal documents,” August 1944. BT 64/1786. National Archives.

fears would be compounded by the stipulations of the Marshall Plan, which encouraged Britain to trade with its former enemies. The biggest cause for concern for the piano industry was that German pianos would once again dominate the market in the post-war era.

Even before the end of the war, the piano industry was writing about the potential impact of an influx of German pianos, especially as British makers were still banned from selling to the home market. Kemble and Co. even penned an anti-German poem that began running in its advertisements in 1944 warning the British public about the potential influx of German pianos. It read:

There'll be Kemble's needed by the score
When our lads have won the war.
Kemble plans are well away
For when we reach that happy day
When sounds of bombing disappear
And sirens wail the last "all clear".
Should Huns their goods then try to sell
We hope you'll answer,
"Go to H__L"⁵⁶⁰

The concern of an influx of German products was justified as there was precedent for this occurring after the First World War. In actuality, the damage inflicted on German industry during the Second World War far exceeded that of British war damage and it would be many years before a German piano was imported to British soil.⁵⁶¹

Czechoslovakia was another country which the British piano industry feared. In November 1947 Sotheran wrote in the *Music Trades Review*:

Since British luxury goods are still marked for export only the trade is scared that foreign goods will be imported including pianos. Housewives cannot buy British china but can buy Czech dishes – will the same happen for pianos?⁵⁶²

In reality, when imports increased, it was done gradually through the Token Import Scheme. The scheme, which began in 1946, set a quota for each specified country

⁵⁶⁰ Kemble advertisement. *Music Trades Review*, July 1944, 225.

⁵⁶¹ Wainwright, *The Piano Makers*, 164.

⁵⁶² Eugene Sotheran, "Exports – And Imports," *Music Trades Review*, November 1947, 13.

granted permission to import items into the United Kingdom. The quota was 20% of the value of each manufacturer's average trade with the United Kingdom from 1936 to 1938. Initially the items imported into the country were mainly raw materials and food. In addition, countries which were part of the Token Import Scheme had to offer an adequate return of trade with the U.K.⁵⁶³ By March 1948 some of the countries participating in the scheme included Australia, Belgium, Canada, Czechoslovakia, Denmark, Finland, France, Holland, India, Italy, Luxembourg, Norway, Pakistan, Sweden, Switzerland, and the U.S.A.⁵⁶⁴

In April 1947 Germany was included in the Token Import Scheme and companies were able to apply for import licences from any zone in Germany.⁵⁶⁵ The addition of Germany to the scheme raised alarm for the industry. Although British piano makers were told by representatives of the Board of Trade that "piano makers in Germany were still not in any state to impose a threat to British piano makers," the Piano Manufacturers Association warned British manufacturers "to keep their eye on Germany production."⁵⁶⁶

Domestic Production and the Purchase Tax

The return to piano production for the home trade was the ultimate goal of the piano industry and the industry remained confident that the demand for new pianos would be "instant and insistent all over the country."⁵⁶⁷ But, even if the industry was allowed to resume production for the home market, the success of piano sales was reliant upon the revocation of the Purchase Tax. The hope for a speedy removal of the Purchase Tax was dashed by Hugh Dalton, Chancellor of the Exchequer when he said:

⁵⁶³ "Token Import Scheme (Licences) HC Dec 02 December 1947 vol 445 c50W," UK Parliament. Accessed 4 February 2017, http://hansard.millbanksystems.com/written_answers/1947/dec/02/token-import-scheme-licences.

⁵⁶⁴ "Token Imports during 1948: New Arrangement Announced," *Music Trades Review*, March 1948, 222.

⁵⁶⁵ "Trade with Germany: Import Licence Procedure," *Music Trades Review*, April 1948, 274.

⁵⁶⁶ "Keeping an Eye on Germany," *Music Trades Review*, February 1949, 181.

⁵⁶⁷ Eugene Sotheran, "Self-Reliance and Resources," *Music Trades Review*, July 1945, 291.

I must confess I do not regard this as a temporary tax or as a wartime aberration to be swept away. On the contrary, my view is that the Purchase Tax has got to stay and yield an increasing revenue over the next few years.⁵⁶⁸

Even though the piano industry continued to be prohibited from manufacturing new instruments for the home market, the industry was preparing for the eventual day when this trade would resume. In preparation for resumption of the home trade, manufacturers and dealers met at the Music Trades Association conference to discuss what pianos should be produced. The general consensus was that manufacturers would make miniature pianos (3' 2"), small uprights (3' 10") and baby grand pianos.⁵⁶⁹

In 1947 the piano industry was granted a special licence to sell what were called "frustrated exports" to the home market. These were pianos that were "unexportable because of failure of transport or other causes." What should have been a reason for celebration quickly turned sour as the new pianos were subject to the 100% Purchase Tax and were unaffordable as the cost of the new pianos was between £175 and £200.⁵⁷⁰ (As a matter of context, the Ford Anglia, the cheapest four-door car available in Britain in October 1948 cost £310, and the average house price in Britain in 1950 was £1,940.)⁵⁷¹ Sotheran expressed his exasperation at the continued taxation of pianos and lamented that the industry could not expect the tax to be removed with the "almighty dollar pressing so heavily upon us."⁵⁷² In total, licences were granted for 333 pianos to be sold, but as of 31 December 1948, only 271 of these pianos had been "disposed of" to dealers. It was noted in the *Music Trades Review* that no one knew if the dealers had actually sold the instruments or still had them in their shops.⁵⁷³

In September 1948 the Purchase Tax was lowered to 66⅔%.⁵⁷⁴ Although this was a move in the right direction, the tax was still prohibitive to domestic sales and stagnated

⁵⁶⁸ Eugene Sotheran, "Mr. Dalton Grins: Industry Grins and Bears," *Music Trades Review*, April 1946, 241.

⁵⁶⁹ Eugene Sotheran, "Dealers and Makers Round the Table: Notes and Comments on the MTA One-Day Conference," *Music Trades Review*, December 1946, 65-66.

⁵⁷⁰ "Trade Discusses Vital Topics," *Music Trades Review*, October 1945, 414.

⁵⁷¹ Motoring Research, "The cost of a car the year you were born," accessed 05 February 2017, <https://www.motoringresearch.com/car-news/cost-car-year-born>.

⁵⁷² Eugene Sotheran, "New Pianos for the Home Market," *Music Trades Review*, July 1947, 429.

⁵⁷³ "Piano Manufacturers Association General Meeting" *Music Trades Review*, April 1949, 291.

⁵⁷⁴ "Purchase Tax," *Music Trades Review*, September 1948, 562-563.

the industry. At the end of 1948 the piano industry's entire labour force totalled 1,977 people with 1,547 males, 267 females (employed mainly in clerical work), and 163 juveniles.⁵⁷⁵ The total labour force is less than one-third of the number of employees that Stanley Hurren had estimated the industry would require in the post-war years when he wrote to the Board of Trade in 1943.⁵⁷⁶ This illustrates the slow rate of recovery of the industry.

The resumption of the home trade finally occurred in July 1949,⁵⁷⁷ when, for the period of 1 July through 30 September, the industry was allowed to sell 15% of its pre-war quota. The licence was then extended to 31 December 1949 and the quota was increased to 20%.⁵⁷⁸ Although this marked the beginning of the resumption of the home trade, the Purchase Tax made the cost of the piano "outside the pockets of all but a very small section of the public,"⁵⁷⁹ and the cost of the cheapest piano available to the public was £150.⁵⁸⁰

⁵⁷⁵ "Piano Manufacturers Association General Meeting" *Music Trades Review*, April 1949, 291.

⁵⁷⁶ In his letter Hurren estimated that the industry would need 5,000 skilled and 1,000 unskilled workers to resume full production at the end of the war. S. A. Hurren to E. A. Fisher, letter, 28 June 1943. BT 64/1786. National Archives.

⁵⁷⁷ "Resumption of Home Trade," *Music Trades Review*, July 1949, 459.

⁵⁷⁸ "Home Trade," *Music Trades Review*, October 1949, 622.

⁵⁷⁹ "New Pianos for the Home Market," *Music Trades Review*, April 1950, 301.

⁵⁸⁰ Edward Machell, "Postbag," *Music Trades Review*, June 1950, 442.

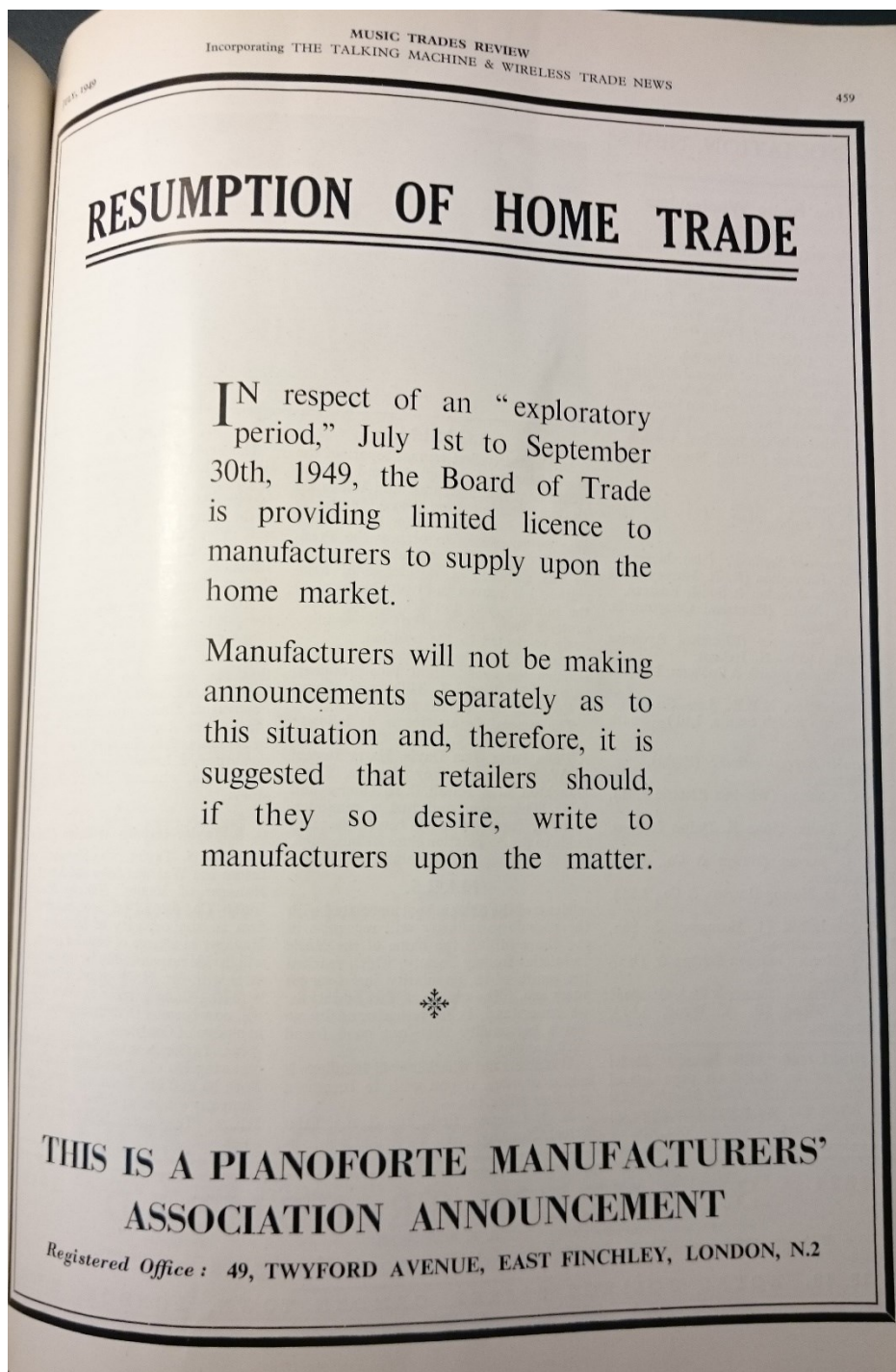


Figure 11. Resumption of Home Trade Announcement, *Music Trades Review*, July 1949.

Piano repair work was also affected by the Purchase Tax. If a piano was being repaired and new parts were added to the instrument, the parts were subject to the tax. For example, if a new set of hammers were to be placed into a piano, the cost of those hammers broke down as follows.

Cost of Replacement Hammers including Purchase Tax

	£	s.	d.	£	s.	d.
Set of hammers				2	9	6
Postage						9
				2	10	3
Invoice	2	10	3			
Uplift tax of 20%		10	0			
Purchase Tax of 66 $\frac{2}{3}$ % on	3	0	3	2	0	2
				£4	10	5

Table 12. Purchase Tax figures on a new set of replacement hammers. Figures found in *Music Trades Review*, June 1950, 442.

The tax made not only purchasing a new instrument, but also repairing old instruments if new parts were required prohibitive. According to Sotheran because of the lack of sales, the Purchase Tax was making it difficult to recruit young people as technicians or replace the skilled craftsmen who are needed to recondition existing instruments, and that “until this is abolished our industry is formed to fight against impossible odds.”⁵⁸¹

The Purchase Tax remained at 66 $\frac{2}{3}$ % until October 1952 when it was lowered to 33 $\frac{1}{3}$ %.⁵⁸² In April 1953 the tax was finally removed. The total abolition of the Purchase Tax gave the industry hope and was seen as a turning point and beginning of a new era, an era “in which the public and professional can get the new instruments that are needed.”⁵⁸³

The removal of the tax led to an upsurge in sales, with an uplift from 184 piano sold in March 1953 to 440 pianos sold in April after the ban was lifted. But, even with the Purchase Tax removed, British-made pianos were still expensive to purchase with the cheapest model selling for £120. According to the industry the high cost of pianos was

⁵⁸¹ Eugene Sotheran, “Snippers and Snoopers Stifle Industry,” *Music Trades Review*, November 48, 15.

⁵⁸² Eugene Sotheran, “Reduced Purchase Tax – What Now?,” *Music Trades Review*, October 1952, 591.

⁵⁸³ Eugene Sotheran, “Planning for Prosperity,” *Music Trades Review*, April 1953, 305.

due to the cost of labour and materials, which had risen fantastically during the war, and that the skilled labour force had been reduced in number causing the production rate to slow down. If the piano industry was to lower the cost of a piano, the rate of production would have to increase, but production would only increase if there was demand for pianos and the labour to build them.⁵⁸⁴ After the reopening of sales to the home market, the British piano industry agreed that it would have to continue to rely on export sales. This would be the main focus of the piano industry until an increase in production rates could lower the cost of the piano and once again make them affordable to the British people. Unfortunately, before the industry was able to lower the cost of pianos for the home market, a new form of competition had emerged which would come to dominate the domestic entertainment scene.

The Television and Other Forms of Popular Entertainment Effects on Post-War Piano Sales

As the industry struggled with the difficult post-war situation, a new form of competition came on the market. In 1946, the BBC started its television service. Although initially the television industry was slow to build as its price made it unaffordable to all but the wealthiest of the British public, the popularity of the television would expand exponentially in the post-war years.

The television was not the first device to compete with the piano's prominent place as a means of entertainment and source of music in the British home. Prior to the First World War the gramophone had begun to impact the market and soon "people with no musical talent preferred the gramophone" to owning a piano. After the First World War radios became increasingly popular and by the 1930s a large portion of the public preferred this type of entertainment.⁵⁸⁵ The availability and affordability of radios to the public in the years following the Second World War was a point of contention in the piano industry. By 1953 the price of a radio had risen 50% above the 1939 price, whereas the price of a piano, even after the repeal of the Purchase Tax, had risen

⁵⁸⁴ "Pianos – prospects and price," *Music Trades Review*, June 1953, 432.

⁵⁸⁵ A. W. Stokes, "The Pianoforte Amid Competition," *Music Trades Review*, March 1950, 138.

200%.⁵⁸⁶ The popularity of both the gramophone and the radio was noticeable in the amount of coverage both items received in the *Music Trades Review*. Throughout the 1930s, 40s, and 50s the number of articles discussing gramophones and the radio continued to increase in the trade publication while conversely the space dedicated to the piano industry shrank.⁵⁸⁷

The first television service began in 1946 and was limited to London. The televisions themselves were expensive and by the end of 1947 nearly half of television owners were from the top 12% of the income distribution of the United Kingdom. But, the price of a television set fell dramatically and by 1953 people from all income groups were purchasing televisions and eventually television ownership became more representative of the whole population.⁵⁸⁸ The increase in the growth of television ownership can be seen in the chart below.

The Growth of the Television Public in the United Kingdom 1947-1955			
		Estimated Numbers of Adults with TV	TV Public as Proportion of Total Adults
			%
At the end of -	1947	80,000	0.2
	1948	260,000	0.7
	1949	670,000	1.8
	1950	1,660,000	4.3
	1951	3,250,000	8.7
	1952	5,250,000	14.0
	1953	8,160,000	21.8
	1954	11,505,000	30.6
	1955	14,925,000	39.8

Table 13. The Growth of the Television Public in the United Kingdom 1947-1955. Numbers courtesy of B. P. Emmett, "The Television Audience in the United Kingdom" *Journal of the Royal Statistical Society Series A* 119:3 (1956): 286.

⁵⁸⁶ This was probably due to the need for radio manufacture throughout the war years. Radios were essential items throughout the war and rather than radio companies having to consolidate during the war, the industry expanded and maintained its labour force. This then helped the cost of radios to stay down even in the post-war years. Ibid.

⁵⁸⁷ This is based on observations by the author while researching the 1936-1953 issues of the *Music Trades Review*. In the 1930s the trade publication devoted most of the magazine to the piano trades, but by the 1950s the gramophone and radio dominated the magazine and articles relating to the television were increasing.

⁵⁸⁸ A. D. Bain, "The Growth of Television Ownership in the United Kingdom," *International Economic Review* 3:2 (May 1962): 145-146.

By 1950 the piano industry was beginning to worry about the competition of this new entertainment medium. At this time, pianos were available to the domestic market, but the instruments were subject to a 66⅔% Purchase Tax, making even a small upright piano unaffordable to most buyers. Because new pianos were so expensive, the demand for second hand pianos was high and retailers were willing to accept unwanted pianos as partial payments for television sets. As piano owners traded in their used pianos for televisions, piano makers had to accept that the days of the supremacy of the piano in the British home were over.⁵⁸⁹ Ironically, the Board of Trade's emphasis on expanding export trade actually helped the British piano industry as it competed with television as a form of entertainment. By this time companies no longer relied mostly on sales to the home market, but had developed strong export markets instead. The British piano was no longer made for the British public but instead for buyers in Australia, South Africa, and South America.⁵⁹⁰

It is interesting that the piano industry was so focused on the development of the television in the *Music Trades Review*. Although the television played a part in diminishing the status of the piano in the home, other instruments, forms of entertainment, and technologies would prove to be much more damaging to piano sales. Technical advancements of audio technologies in the 1940s, many of which were a direct result of research undertaken for the war effort, further increased audio recording and broadcasting technologies. This included advancement in magnetic tape technology, which was "liberated" from Germany during the war, and the unveiling of the transistor by U.S.-based Bell Telephone in June 1948. The transistor changed the scope of amplification as vacuum tubes, made of glass and prone to overheating causing them to break, were no longer needed. This allowed radios and amplifiers (important for the development of the electric instruments) to become more robust, dependable, and much more portable.⁵⁹¹

⁵⁸⁹ A. W. Stokes, "The Pianoforte Amid Competition," *Music Trades Review*, March 1950, 138.

⁵⁹⁰ Wainwright, *The Piano Makers*, 165.

⁵⁹¹ Reebee Garofalo, "From Music Publishing to MP3: Music Industry in the Twentieth Century," *American Music* 17:3 (Autumn 1999): 334.

In September 1948, the “long playing” 33-rpm record (the LP) was released and was quickly followed by the 45-rpm record in March 1949. These new vinyl records were lighter and more durable than their shellac predecessors, had better sound quality, and a 33-rpm could play up to 25 minutes per side. The LPs were relatively inexpensive to produce and their durability allowed the disks to be distributed with less fear of breakage, ultimately allowing them to be shipped across larger distances, such as across the Atlantic.⁵⁹² The LP quickly became the staple of radio programming, but also became the preferred medium of the music industry to distribute music to the public. With the growing youth culture movement and the emergence of rock and roll in the 1950s and expansion to Great Britain in the 1960s, record sales in the U.K. steadily increased in the post-war era.⁵⁹³ Although Great Britain still faced austerity measures immediately after the war, by 1955 record sales⁵⁹⁴ equalled a total of \$59.9 million. This increased to \$72.7 million in 1960, and by 1970 record sales were valued at \$114.0 million; a 90% increase in sales in 15 years.⁵⁹⁵ As record sales continued to rise, the LP became the dominant product of the music industry as a whole, eclipsing sheet music, which would have previously been played on the family piano.⁵⁹⁶

Additionally, instruments like the guitar, both electric and acoustic, and the drums rose in prominence in the post-war years. These instruments were more affordable than pianos, easy to obtain, portable, relatively easy to learn, and most importantly, were played in rock and roll.

Summary

Government restrictions on piano production brought on by the Second World War continued until 1953. Although the Board of Trade began planning the reconversion of the industry as early as 1942, the economic reality of post-war Britain resulted in the continued limitation of piano production as resources, materials, and labour were funnelled to industries which manufactured priority items such as furniture and

⁵⁹² Ibid.

⁵⁹³ Pekka Gronow, “The Record Industry: The Growth of a Mass Medium,” *Popular Music* vol. 3 (1983): 66.

⁵⁹⁴ These figures include pre-recorded tape.

⁵⁹⁵ Sales figures were reported in American dollars. Gronow, 66.

⁵⁹⁶ Garofalo, 336.

housing. The piano industry, which produced luxury items, was forced to wait to resume domestic manufacturing and instead was encouraged to expand its export trade in order to bring in much needed revenue.

After the end of the war piano manufacturers continued to be effected by material restrictions and costs, difficulty in attracting labour, and the Purchase Tax, which made the cost of new pianos unaffordable to the British public. During this time the industry focused its attention on exporting pianos and the rise in the export trade kept many of the companies in business in the post-war years. Even after restrictions and taxes were lifted on piano production for the home market, the price of a piano remained high as the industry struggled to increase output in order to lower prices. The prohibitive cost of new pianos made them less appealing to the domestic buyer and as televisions became more popular and affordable, this new form of entertainment began to take the piano's place in the British home.

Chapter 6: John Broadwood and Sons Case Study

By the outbreak of the Second World War, John Broadwood and Sons, one of the oldest names in the British piano industry, had survived numerous crises in its history including competition from within London, imports of foreign-made pianos, economic downturns, the First World War, international recession, the introduction of the gramophone, company restructuring, and even licensing to another piano maker. The company had been on the brink of liquidation in the past and had survived, but with the threat of another great war on the horizon, there was a distinct possibility that Broadwood and Sons might close forever.

Historical Overview

The history of John Broadwood and Sons can be traced back to the founding of the harpsichord making business of Burkat Shudi, who established his business in 1728.⁵⁹⁷ John Broadwood, originally from Cockburnspath, Scotland, moved to London and began working for Shudi in 1761.⁵⁹⁸ He married Shudi's daughter, Barbara, eight years later and became a partner in the business in 1770. In 1771 Burkat retired, and the firm became known as Shudi & Broadwood.⁵⁹⁹ After Burkat Shudi's death in 1773, Broadwood became the senior partner with Shudi's son, also named Burkat, the junior partner. When Shudi the younger died in 1803, Broadwood became the owner of the firm and the instruments were signed "Johannes Broadwood."⁶⁰⁰

When Broadwood began working with Shudi, the preference of keyboard instruments was transitioning from the harpsichord to the piano. Broadwood steered the company toward the production of pianos and began to manufacture square pianos in 1771. He

⁵⁹⁷Shudi was an immigrant from Switzerland who moved to England in 1718. His name is also spelled Tschudi and Tshudi. Donald Howard Boalch, "Shudi, Burkat," *Grove Music Online* (Oxford University Press, n.d.), <http://www.oxfordmusiconline.com/subscriber/article/grove/music/25679>.

⁵⁹⁸ Broadwood was born on 6 October 1732 in Cockburnspath, a village near Haddington, Scotland, although some sources list Haddington as Broadwood's place of birth. Derek Adlam and Cyril Ehrlich, "Broadwood," *Grove Music Online*, n.d.

⁵⁹⁹ Wainwright, *The Piano Makers*, 30.

⁶⁰⁰ Boalch, "Shudi, Burkat."

proved to be an innovative maker and he improved upon the design of the square piano.⁶⁰¹



Figure 20. Square piano by Broadwood and Son c. 1790, MIMEd 4340. This is a typical square piano of the time. Image courtesy of The University of Edinburgh.

Broadwood built his first grand piano in 1781 and these early instruments share many similarities with the shape of the firm's harpsichords. Although the outer form looks in many ways like a harpsichord, the inside of the instrument contained the important piano action.⁶⁰² Broadwood continued to be an innovator in the design of pianos and in 1783 he introduced a foot pedal that could lift the dampers, as well as adding a moderator pedal that softened the sound of the instrument by pressing a cloth pad against the strings.⁶⁰³ His improvements to the piano, combined with the growing popularity of the instrument, influenced the firm's halt of harpsichord production in 1793.

⁶⁰¹ In 1781 Broadwood placed the wrest plank along the back of the case, instead of along the right hand side. This increased the volume of the instrument and soon other makers adopted this style of manufacturing. Dolge, 49.

⁶⁰² Wainwright, *The Piano Makers*, 59.

⁶⁰³ *Ibid.*, 33.



Figure 21. Piano by Johannes Broadwood Londini 1793, MIMEd 4490. This piano has similarities with the harpsichord made in the same year in decoration and design. Image courtesy of the University of Edinburgh.



Figure 22. Harpsichord by Johannes Broadwood Londini 1793, MIMEd 4319. This harpsichord is thought to be the last harpsichord made by Broadwood. Image courtesy of the University of Edinburgh.

In 1795 the company changed its name to “John Broadwood & Son” after James Shudi Broadwood became a partner. In 1798, James Shudi Broadwood remarked on the continued growth of the popularity of the piano: “Would to God we could make them like muffins!”⁶⁰⁴ Pianos became so popular that by 1802 the firm was making around 400 instruments a year.⁶⁰⁵ Broadwood’s third son, Thomas Broadwood, became a partner in 1808 and the firm went through its final name change, becoming “John Broadwood & Sons.”⁶⁰⁶

John Broadwood died in 1812 and the firm remained in the hands of the two brothers. They continued to expand the business to meet the demands of the English market and by 1820 the company produced more than 1000 square and 400 grand pianos a year.⁶⁰⁷ The brothers also continued to improve upon the design of the instrument with the introduction of steel tension bars above the strings in 1823 and then a combined iron

⁶⁰⁴ Isacoff, 52.

⁶⁰⁵ This is in comparison to only 20 harpsichords a year produced under Shudi. Wainwright, *The Piano Makers*, 31.

⁶⁰⁶ Derek Adlam and Cyril Ehrlich, “Broadwood,” *Grove Music Online*, *Oxford Music Online* (Oxford University Press), accessed April 7, 2014,

<http://www.oxfordmusiconline.com/subscriber/article/grove/music/04030>.

⁶⁰⁷ Ibid.

hitch-pin plate with cross bar system in 1827.⁶⁰⁸ The company continued to expand the compass of the instrument, increasing the number of keys.

The zenith of Broadwood's production came in the 1840s. At that time Broadwood was one of the twelfth-largest employers in London and the company could produce up to 2,500 pianos a year.⁶⁰⁹ England itself was at the centre of the piano world, with an estimated 200 piano makers in and around London.⁶¹⁰ But, Broadwood's time as a leader in the British piano trade was about to come to an end.

The first chink in Broadwood's armour was at the Great Exhibition of 1851 when Broadwood was beaten for the Gold Medal for piano manufacture by the French piano manufacturer Pierre Erard.⁶¹¹ Erard had factories in both Paris and London and his piano sales quickly rivalled English manufacturers.⁶¹² Competition from makers such as Erard combined with Broadwood's stagnation when it came to innovation pushed Broadwood from its place as the pre-eminent British piano manufacturer. While many manufacturers were adapting to making upright pianos, Broadwood continued to concentrate on the growingly unfashionable square piano. The company also was slow to integrate the use of a full iron plate or over-stringing of the bass strings.⁶¹³ To top it off, the company's factory on Horseferry Road, Westminster, burned to the ground on 12 August 1856. Nearly 1000 instruments were destroyed; the factory was beyond salvaging and the workmen lost their tools – items that were personally owned. Only 200 instruments survived, along with the stocks of pine and ebony. Everything else was lost.⁶¹⁴

⁶⁰⁸ Dolge, *Pianos and Their Makers*, 70.

⁶⁰⁹ "John Broadwood and Sons," accessed April 7, 2014, <http://www.broadwood.co.uk/history.html>.

⁶¹⁰ Dolge, *Pianos and Their Makers*, 173.

⁶¹¹ Adlam and Ehrlich, "Broadwood."

⁶¹² Amy Griffiths and Richard Macnutt, "Erard," *Grove Music Online*, Oxford Music Online, accessed April 7, 2014, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/42471>.

⁶¹³ Broadwood attempted to create its own framed piano with the barless grand of 1888. The company finally began over-stringing the bass strings in 1897. Adlam and Ehrlich, "Broadwood."

⁶¹⁴ Wainwright, *Broadwood by Appointment*, 172–173.

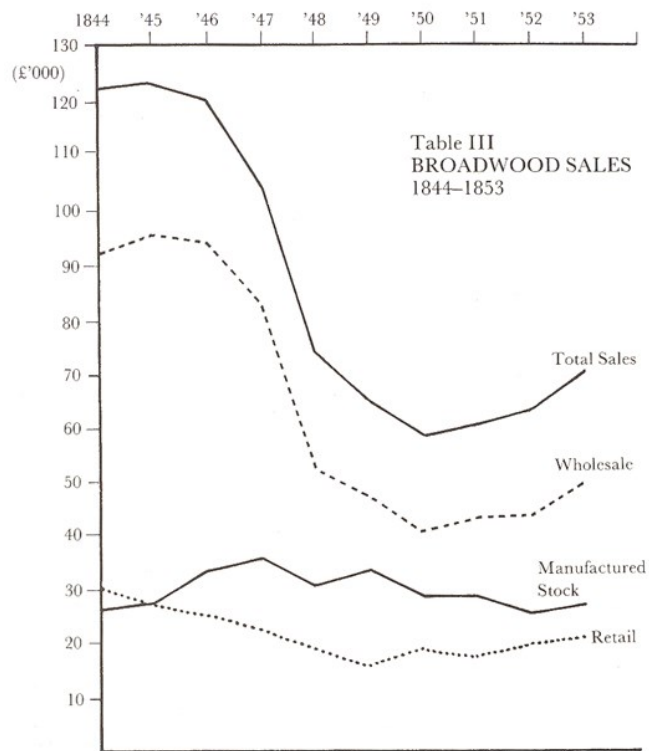


Table 14. Sales figures of Broadwood and Sons 1844-1853. The height of production was in 1845 when Broadwood had over \$120,000 of total sales. Sales then declined from 1846-1850. Wainwright, *Broadwood by Appointment*, 163.

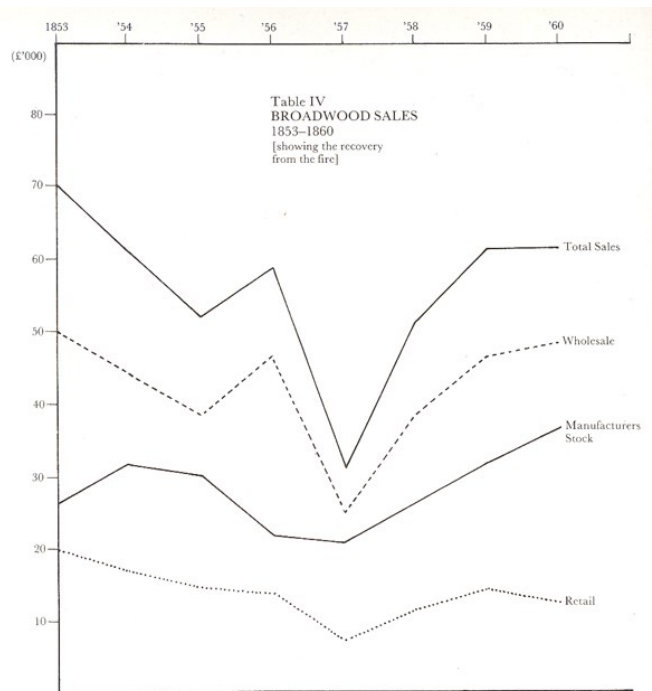


Table 15. Sales figures of Broadwood and Sons 1853-1860. The worst year of sales was 1856/1857 when the factory fire destroyed stocks. Wainwright, *Broadwood by Appointment*, 184.

In the late nineteenth century, Broadwood, along with all of the British piano manufacturers, had to compete with an influx of foreign-made pianos, the majority of which came from Germany. In 1860, England imported circa 20,000 German-made pianos,⁶¹⁵ from more than 200 piano factories that had opened in Germany between 1850 and 1890.⁶¹⁶ In addition to German-made instruments, American-made pianos were beginning to be imported into England. This includes Steinway & Sons who, in 1890, received its first Royal Warrant. After the granting of the warrant members of the royalty, including Queen Victoria and the Prince and Princess of Wales, who had previously been supplied pianos by Broadwood and Sons, owned Steinways.⁶¹⁷

Another potential threat to Broadwood and Sons was the development of the player piano, which was introduced to London by the Aeolian Company in 1899. The Aeolian's instrument the Pianola was very popular, even though it cost much more than a regular piano. In this case, Broadwood responded to the demand for player pianos and was one of the few British manufacturers of the instruments. Broadwood produced the Artistone player piano, which sold for between £84 and £125⁶¹⁸ and first appeared in showrooms in January 1907.⁶¹⁹ The Artistone was a success and Broadwood became one of the leaders in the player-piano industry.⁶²⁰

During the first decade of the twentieth century the company was financially solvent and maintaining a steady stream of manufacturing. Although German pianos continued to be the biggest competitor for the company, growing anti-German sentiment was proving positive for the sale of British pianos. Even though British makers were benefitting from the nationalistic and inclusionary sentiments of the early twentieth century, the reality was that these same makers imported and used German piano parts for their instruments and Broadwood was no exception. When the First World War was declared on 4 August 1914, Broadwood was no longer able to receive shipments from its German and French suppliers and it looked as though piano

⁶¹⁵ Dolge, *Pianos and Their Makers*, 173.

⁶¹⁶ Wainwright, *The Piano Makers*, 122.

⁶¹⁷ *Ibid.*, 123.

⁶¹⁸ *Ibid.*, 128.

⁶¹⁹ Wainwright, *Broadwood by Appointment*, 207.

⁶²⁰ *Ibid.*, 277.

production would come to a complete stop.⁶²¹ As the war progressed there were major disruptions to piano production, a switch to war production, and an influx of female workers at the Broadwood factory.⁶²²

The lack of imports and an import duty of 33⅓% on goods caused the company to revert to manufacturing its own piano actions, as it was no longer able to receive shipments from its Paris supplier.⁶²³ The company also turned to other British manufacturers for parts that could no longer be imported from Germany.⁶²⁴ Overall, material shortages and rationing had the largest impact on the production of instruments during the war. Additionally, the prices of materials, when available, were largely inflated, affecting the price of pianos and causing the public to accuse the industry of “profiteering in wartime.”⁶²⁵

The gender of the workforce also changed because of the war. As factory workers joined the military, women began to be hired. By November 1915, women were hired to work on the shop floor and by February 1916 these women were working in upright piano finishing, regulating, French polishing, and key manufacturing. By October 1916, the women, along with older men who were not fit for military duty, manufactured around 20 uprights and 4 grand pianos a week. By 1917 this was reduced to 15 uprights a week and the production of grand pianos was stopped.⁶²⁶ In March 1918, Broadwood stopped manufacturing pianos, not because of lack of demand or materials, but because the company had switched completely to war production.⁶²⁷

Broadwood received its first war production contract from Vickers & Co. in December 1914 for the production of tool and ammunition boxes, which it continued to produce throughout the war.⁶²⁸ In 1915, the company began making aircraft propellers. The

⁶²¹ Many piano companies imported various parts of instruments from Germany. This included piano actions, hammers, wire, keys, wrest planks, and hitch pins. This tradition continues today with many piano makers, including Steinway & Sons, who use German-made Abel hammers for their instruments. Ibid.

⁶²² For a more detailed account of Broadwood and Sons manufacturing during the First World War, see Wainwright's *Broadwood by Appointment* which elucidates the various contracts, production rates, and difficulties faced by the company during the time.

⁶²³ During this time Broadwood imported piano actions from Herrburger in Paris.

⁶²⁴ Wainwright, *Broadwood by Appointment*, 278.

⁶²⁵ Ibid, 279.

⁶²⁶ Ibid, 284.

⁶²⁷ Ibid, 283.

⁶²⁸ Ibid, 279

production of aircraft parts expanded to manufacturing nacelles,⁶²⁹ skids, fuselages, wings, ailerons,⁶³⁰ undercarriages, cowlings,⁶³¹ and bomb cells for companies including Airco, de Havilland, Rolls Royce, Royal Aircraft Factory, and Hendon Aircraft Factory.⁶³² By March 1918, the company had aircraft contracts worth £90,000, and the company switched to total war production to meet the demands of war work.⁶³³



Figure 23. Interior of the Old Ford Factory, showing Broadway and Sons employees manufacturing aircraft propellers, 1915. Wainwright, *Broadwood by Appointment*, 279.

When the war ended in November 1918, the company was quick to convert back to piano production, but a shortage of raw materials, especially metal frames, hampered the return to normal domestic manufacturing. As trade and materials trended towards pre-war levels, the company predicted that it could produce 3,000 pianos in 1920.⁶³⁴ Unfortunately, this projection did not become a reality. Firstly, the company was not able to produce pianos because of limitations on materials and secondly, in the spring

⁶²⁹ A nacelle is the casing that holds engine, fuel, or equipment on an airplane.

⁶³⁰ An aileron is the hinged flap on a wing that controls movement on the longitudinal axis.

⁶³¹ A cowling is the covering of an engine.

⁶³² Wainwright, *Broadwood by Appointment*, 280-283.

⁶³³ Ibid, 283.

⁶³⁴ Ibid, 288.

of 1920, factory workers went on strike for 12 weeks. The strike was detrimental to the company, and after the strike Broadwood laid off one-third of its workforce. By the end of the strike, Broadwood only had 17 piano orders on-hand and the factory switched to manufacturing office desks, telephone switchboards, and even photo frames in order to stay in business.⁶³⁵

Over the next six years, the company's prospects began to improve. By the summer of 1922, the firm was manufacturing close to 300 instruments, but the company was in heavy debt and had not yet returned to profitability.⁶³⁶ The first year that the company would return a profit was 1927 but sadly this did not last long. By 1928, the company was once again experiencing difficulties as the player piano industry was losing its footing to wireless radio and electric gramophones.⁶³⁷ The financial situation of the company worsened as the Great Depression took hold, and the company was plagued by rumours that it was on the verge of closing down, making it even more difficult to sell orders.⁶³⁸ The situation was bleak and in 1931, the company decided to reorganise.

As part of the reorganisation of the company the production of Broadwood pianos was taken over by Challen, and according to William Evans of Challen, "our desire would be to put the Broadwood piano where we feel it rightly belongs, as the premier British instrument." Unfortunately, this reorganisation caused all but two dozen Broadwood craftsmen to be laid off, with the remaining workers were transferred to the Challen factory known as "The Hyde" in Hendon. Subsequently, the Broadwood factory, known as "The Old Ford," was rented out as industrial units.⁶³⁹ By joining with Challen, Broadwood was able to remain in business and to keep Captain Evelyn Broadwood as Chairman of the Board of Directors, but after reorganisation, Broadwood pianos were now manufactured by Challen. The agreement with Challen stated that Broadwood instruments would be the highest quality pianos produced by

⁶³⁵ Ibid, 289.

⁶³⁶ Ibid, 291.

⁶³⁷ Ibid, 296.

⁶³⁸ Ibid, 300.

⁶³⁹ Ibid, 301.

the company with lesser quality instruments carrying the Challen name or other trade names of that company.⁶⁴⁰

The agreement with Challen would last from 1931 to 1938. During this time Broadwood continued to control the retail side of the business and its successful tuning service. Initially, this agreement proved profitable, but, as the decade continued, the threat of war again loomed in the distance and Broadwood would have to face another great challenge.

Wartime Preparations

Prior to the beginning of the Second World War, the trade publications of the piano industry, such as the *Music Trades Review* and *The Pianomaker*, were full of warnings of the consequences a war could bring to the industry and urged the industry to prepare. Eugene Sotheran, the editor of *Music Trades Review*, reminded piano makers in the September 1938 issue “Let us not forget the lesson of 1914, when the factories were depleted of workmen, supplies were at a minimum and the demand most difficult to meet.”⁶⁴¹ The Board of Directors of Broadwood and Sons seemed to heed these warnings and began to prepare for the impact of war long before hostilities started.

Throughout 1937 and 1938, Europe moved closer to war. The crisis prior to the signing of the Munich Agreement created unstable trade conditions as the populations of Europe braced itself for the coming conflict.⁶⁴² Although Neville Chamberlain declared that the agreement would bring “peace for our time,” the British people began saving rather than spending and the piano industry suffered. The bad economic position of the industry prompted William Evans to terminate the agreement between Challen and Broadwood. Broadwood was now in need of a new home and the company decided to rent a factory in Acton.⁶⁴³ The termination of the manufacturing agreement between Challen and Broadwood meant that John Broadwood and Sons

⁶⁴⁰ Ibid, 305.

⁶⁴¹ Eugene Sotheran, “Facing the Music,” *Music Trades Review*, September 1938, 323.

⁶⁴² Pelling, 27.

⁶⁴³ The company maintained ownership of The Old Ford factory, but at the time this factory was rented out to a number of businesses and was no longer fit for piano manufacturing.

was once again independently owned and the company opened its new factory in January 1939.⁶⁴⁴

The first notion of Broadwood's war preparations began in the spring of 1939, when the Board debated whether the company should get insurance against air raid damage at the Old Ford factory in Hackney and the factory in Acton.⁶⁴⁵ In addition to thinking about the possibility of air raids, Broadwood was also planning for the potential of lack of supplies. Capt. Broadwood, Chairman of the Board of Directors, wrote that even though piano sales in 1938 were as bad as 1933 (the lowest point of the Depression), he had observed that there had been a 20% increase in the manufacturing of iron frames in the first three months of 1939 for the piano industry. This increase was indicative of the industry buying parts that would be difficult to obtain once war began, especially if rationing was introduced as it had been during the last war.⁶⁴⁶

In addition to stocking materials that may be difficult to obtain, the company had to decide how and if it should pay employees if they were called for service. Initially the Board decided that the company would pay the full wages of any member of staff while he was in annual training.⁶⁴⁷ But, once war was declared and the demand for soldiers dramatically increased, it was decided that the company was not in a position to pay the wages of any members of the staff called up for military service or to make any part payment. Instead, the company promised to endeavour to maintain the posts for all that wished to return in due course.⁶⁴⁸

Four days after the British declaration of war, the company was concerned for the safety of its employees and records and decided that it would move all of its accounts, tuning records, and clerical staff out of the centre of London (and potential bombing zone) to the home of Capt. Broadwood. The home, Lyne House, was two miles north

⁶⁴⁴ Wainwright, *Broadwood by Appointment*, 308.

⁶⁴⁵ "Minutes of the Board Meeting Held on Friday, 14th April, 1939" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁴⁶ Captain Evelyn Broadwood. "The Crises, the Pianoforte and the Trade," *Music Trades Review*, June 1939, 173.

⁶⁴⁷ This is in response to the Military Training Act of 27 April 1939 which required all men aged 20-21 to participate in military training. "Minutes of the Board Meeting Held on Tuesday, 23rd May, 1939," *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁴⁸ "Minutes of the Board Meeting Held on Wednesday, 13th September, 1939," *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

of the village of Rusper in north Sussex; those moving to the premises were informed that they would be responsible for their own food and heating costs while staying at the estate. The Board also decided to build a shelter in the basement of the Hanover Street showroom, but those working at the factory in Acton would remain, as there was enough work for two or three weeks.⁶⁴⁹

The Search for War Contracts

The small amount of secured work at the factory prompted the company to think about switching to war production. During the previous war, Broadwood produced airplane parts and ammunition boxes for the military. These contracts helped the company to remain solvent throughout the last war and it was decided that Broadwood should approach the Air Ministry in regard to contracts for government work.⁶⁵⁰ The search for war work would prove to be a frustrating process for the company and during the next 15 months, the company would repeatedly report at the Board Meetings of the possibility of a contract, only then to subsequently announce that the contract had fallen through.

It seemed that Capt. Broadwood foresaw the potential difficulty in obtaining war production contracts. During the board meeting held in October 1939 he reported on the negative response he received to his inquiries regarding government contracts. He suggested that although the manufacture of aircraft parts should not be dismissed as future policy, the company should continue to concentrate on the manufacture of pianos.⁶⁵¹ Although the company continued to manufacture instruments, the firm persevered in its search for war work as this would be an additional source of income and would ensure that they maintained employee numbers.⁶⁵² Initially, the company approached the Government for direct contracts, but as the firm continued to be

⁶⁴⁹ Ibid.

⁶⁵⁰ Ibid.

⁶⁵¹ "Minutes of the Board Meeting Held on Tuesday, 17th October, 1939" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁵² Employees of companies with essential war work could remain at the factory. Companies with no war contracts had to release their employees to either military service or other companies producing essential military items.

rejected, the company began to look for manufacturing through becoming a sub-contractor.⁶⁵³

From December 1939 to July 1940, Broadwood was in negotiations with the Ministry of Supply to produce boxes for parachutes.⁶⁵⁴ Discussions continued throughout the first half of 1940, but in order to receive the contract the company would need to install new machinery, which was difficult to obtain. In July 1940, the company remained in talks on the possibility of producing these boxes for the war effort⁶⁵⁵ but by September of the same year, it was reported that it was impossible to obtain any contracts or subcontracts for Government supplies.⁶⁵⁶ By December 1940, Broadwood stopped its efforts to secure war production contracts.⁶⁵⁷

This lack of success in obtaining government contracts must have been frustrating for the company, especially as a number of its competitors, such as the Kemble and Company, were able to secure contracts for essential government work including the manufacture of airplane components, ammunition boxes, and even pianos for the military.⁶⁵⁸ Instead, Broadwood would have to focus on repairing instruments and selling second hand instruments in their retail store for the remainder of the war.

Piano Production

Broadwood was able to continue to produce pianos for the domestic market until August 1942 and to the export market until April 1943. Throughout this time, the production relied on materials that were purchased prior to the beginning of the war and from purchasing other piano companies' excess stock. As the war continued and more strain was placed upon raw materials and the need for labour, Broadwood would

⁶⁵³ Ashworth, 95.

⁶⁵⁴ "Minutes of the Board Meeting Held on Thursday, 14th December, 1939" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁵⁵ "Minutes of the Board Meeting Held on Thursday 11th July, 1940" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁵⁶ "Minutes of the Board Meeting Held on Thursday 5th September, 1940" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁵⁷ "Minutes of the Board Meeting Held on Friday, 20th December, 1940" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁵⁸ Eugene Sotheran. "The Axe Falls" *Music Trades Review*, July 1941, 105.

find it more difficult to continue to produce instruments. Eventually, piano production would come to a complete halt.

At the beginning of the war, Broadwood and Sons had 40 pianos on order and enough work to keep the factory going until December 1939.⁶⁵⁹ Most of the instruments on order were upright pianos that followed the trend of the “mini” piano introduced by Eavestaff.⁶⁶⁰ In December 1939, the company reported that there were outstanding orders and supplies to make 20 pianos, which would keep the factory fully employed until April or May 1940. But, although orders were placed during this time, the strain of the war had begun to take its toll as the company did not have the funds to purchase raw materials (i.e. wood and metal).⁶⁶¹ At this point materials were beginning to be regulated by the government; and as restrictions became more stringent, prices were also rising, for example, timber prices alone had risen 60% and metal furnishings had risen 70%.⁶⁶²

In March 1940, the first of many government intrusions began to affect the production of Broadwood pianos with the introduction of the Excess Profits Tax (for more details see Chapter 4). The law applied a 100% tax on the profits a company made on any non-war related production sold domestically and was intended to be an incentive to companies to switch to war production. Unfortunately, Broadwood was unable to secure any war production contracts and the company had to decide how it would proceed. Luckily, the tax did not apply to instruments sold to foreign markets, second hand instruments, or instruments that were in stock prior to 21 October 1940. Consequently, Broadwood expanded its export trade of new instruments, while simultaneously increasing its advertising of second hand instruments for the domestic market. In March of this year alone, instruments were shipped to South Africa, Australia, Singapore, and Malaysia.⁶⁶³

⁶⁵⁹ “Minutes of the Board Meeting Held on Tuesday, 17th October, 1939” *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁶⁰ “Eavestaff Pianos” <http://www.piano-tuners.org/history/eavestaff.html> (accessed 12 April 12, 2014).

⁶⁶¹ “Minutes of the Board Meeting Held on Thursday, 14th December, 1939” *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁶² “Further Increase in Piano Prices” *Music Trades Review*, October 1939, 316.

⁶⁶³ “Minutes of the Board Meeting Held on Wednesday, 27th March, 1940” *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

The next blow to the company came with the introduction of the Limitation of Supplies Orders in July 1940. These orders controlled raw materials and regulated who received the materials in order to release non-essential industry's employees over to war work (for more details see Chapter 4).⁶⁶⁴ The order made it increasingly difficult for Broadwood to obtain materials. The company understood that maintaining its staff would be impossible if piano components could not be purchased, and it was agreed that the factory staff should be reduced to a minimum, albeit work would continue with the reduced staff.⁶⁶⁵ The lack of available materials and minimum staff numbers directly impacted Broadwood's ability to meet its expanding export business. By February 1941 Broadwood had received export orders totalling £1,300, of which £1,100 could not be manufactured because of lack of availability of supplies and labour.⁶⁶⁶

The third major government scheme to affect Broadwood and Sons was the Concentration of Industry Scheme issued in March 1941 (for more details see Chapter 4). This plan encouraged companies that did not have war contracts to consolidate into factories with their competitors in order to release factory space and workers for essential war work.⁶⁶⁷ Broadwood began to approach other companies to see if there was a possibility of consolidation. Tommy Watkin, the manager of the company, reported in April that he had contacted Knight Pianos but was rejected. He also contacted Whelpdale, Maxwell & Codd (maker of Welmar pianos) to see if the company would consider making Broadwoods in their factory.⁶⁶⁸ By January of the following year the company was notified that the government intended to concentrate the piano industry and it was agreed that Broadwood would combine with Whelpdale, Maxwell & Codd, George Rogers, and Marshall & Rose. All of the companies would move production to the Whelpdale, Maxwell & Codd factory in Clapham. Each company would retain five piano makers and the rest of their staff would be released

⁶⁶⁴ Postan, 148.

⁶⁶⁵ "Minutes of the Board Meeting Held on Thursday, 11th July, 1940" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁶⁶ "Minutes of the Board Meeting Held on Wednesday, 19th February, 1941" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁶⁷ Mary E. Murphy, "Wartime Concentration of British Industry," *The Quarterly Journal of Economics* 57:1 (1942): 130.

⁶⁶⁸ "Minutes of the Board Meeting Held on Thursday, 3rd April, 1941" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

to other factories with war production contracts. Broadwood also allowed the Ministry of Aircraft Production to sublease their factory on Brunel Road, Acton, for the duration of the hostilities and eight months thereafter to Newbold & Co., a manufacturer of optical lenses.⁶⁶⁹

When Broadwood joined the consortium of makers at the Whelpdale, Maxwell & Codd factory, it brought with it orders to manufacture up to two years' worth of instruments. Broadwood had the materials in stock to complete these orders, but was unable to obtain an export licence to ship the pianos to the various countries in which they were in demand.⁶⁷⁰ The company's production stocks were in such good shape that Tommy Watkin wrote to Capt. Broadwood:

...in spite of the fact that the Board of Trade have stopped the supply of iron frames we are in a fortunate position, inasmuch as we have a fairly large stock, which I calculate will enable us to continue supplying the trade with pianos up to the end of the quota which we have available, and might, indeed necessitate our purchasing a further amount from another firm. Providing Whelpdale are able to continue to manufacture, there is no reason, as far as I can see at the moment, why we should not still continue to trade without making a loss.⁶⁷¹

Although the company had the orders and the materials to manufacture the instruments, the exportation of pianos stopped when the Industrial Supplies Department notified piano manufacturers that all requests for export licences received after March 31, 1942 would not be granted.⁶⁷² With the export business cancelled and a 100% tax on sale of domestic pianos, the production of pianos all but stopped. The Board of Trade officially ended the production of pianos for the domestic market with the Control of Manufacture and Supply Order which went into effect on 1 August 1942. The order granted licences for companies to complete the manufacture and sale of instruments at a given ratio every month until the end of 1942, when at that point,

⁶⁶⁹ "Minutes of the Board Meeting Held on Thursday, 8th January, 1941" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁷⁰ "Minutes of the Board Meeting Held on Thursday, 8th January, 1942" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁷¹ *Letter from Mr. Watkin to Captain Broadwood 11th March, 1942*. 2185/JB/4/4. Surrey History Centre.

⁶⁷² "Cessation of Export Licences" *Music Trades Review*, April 1942, 53.

domestic piano production would halt.⁶⁷³ Export production was ended in August 1943 with the cessation of export licences for pianos.

Broadwood was allowed to sell eight pianos during the month of August 1942. The company had 41 instruments in the factory; 18 of which were intended for export and 23 partially completed instruments were intended for domestic sales. All of the instruments had buyers, but the company could not release them from the factory because of the Control of Manufacture and Supply order.⁶⁷⁴ With the end of piano production, the company had to rely solely on income earned from instrument repair, piano tuning and moving, second hand pianos sales, as well as the rent from their leased factories.

The chart below shows the revenue earned from the wholesale of pianos. Wholesale pianos are instruments that were made and sold to dealers – not sold in the showroom of Broadwood. It is evident to see the impact of the various laws that affected the industry with the decline of sales from 1940s onward. The revenue earned from wholesale pianos ended in 1943, coinciding with the Control of Manufacture and Supply Order.

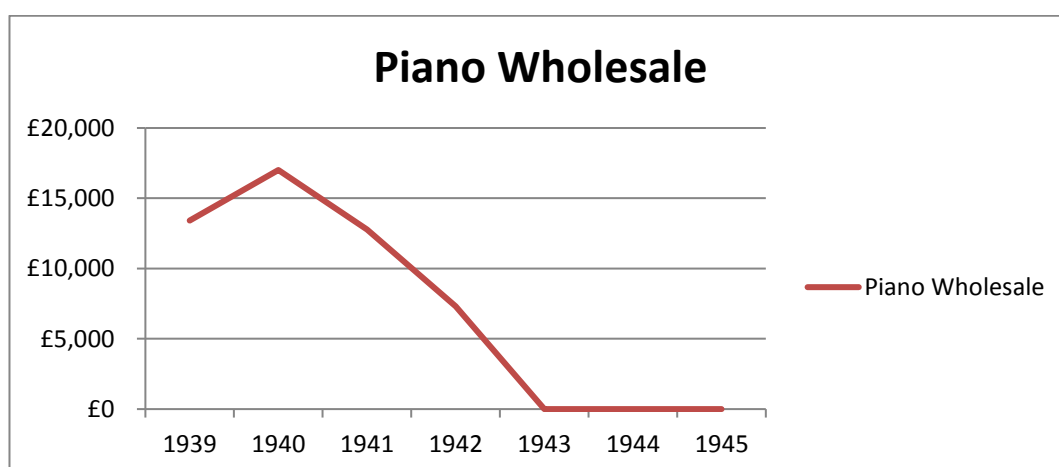


Table 16. Chart showing the revenue earned from the wholesale of pianos 1939-1945. Figures compiled by the author from the “Piano Wholesale Books.” 2185/JB/4/4. Surrey History Centre.

⁶⁷³ Eugene Sotheran. “The New Order” *Music Trades Review*, August 1942, 119.

⁶⁷⁴ “Minutes of the Board Meeting Held on Wednesday, 12th August, 1942” *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

Sales of Second Hand Pianos and Retail Sales

In addition to making instruments that were sold to dealers, Broadwood ran a showroom on Hanover Street, London. This showroom sold both new Broadwood instruments (until 1943) and second hand instruments including pianos, player pianos, and organs from other manufacturers.⁶⁷⁵ The account books include the selling price of the instrument, the credit balance to the customer, and the amount of Purchase Tax charged in the case of a sale of a new instrument until January 1943 (when the production of new instruments ceased). The sales of used pianos became one of the main streams of revenue for the company once the construction of new instruments was banned.

The customers listed in the books show a wide range of people and organisations purchasing instruments throughout the war. Churches, schools, and military organisations were some of the groups making the largest purchases, but many individual citizens continued to buy pianos through the war period.

Date	CUSTOMERS NAME	ADDRESS	INSTRUMENT	No.	Selling Price
25.3.39	Mr. F. E. Smith	44 Ranelagh Rd. S.W. 1.	S/H Chappell Upr. in Rosewood.	05248. B. 3060.	344 6 -
			S/H Erard Upr. in R/W.	20485. B 3064.	5 - -
			S/H Gors & Kallmann Grand. Ebonised	47838. B 3051.	2 5 - -
			S/H Bechstein Upr. Gothic Model. Mahogany.	98352. B. 3065.	15 - -
					395 6 -

Figure 12. Retail sales entry for instruments sold to Mr. F. E. Smith for four second hand instruments on 25 March 1939. The instruments include three upright pianos and one grand. The makers include Chappell, Erard, Gors & Kallmann, and Bechstein. "Broadwood Retail Sales Books" 2185/JB/4/4. Surrey History Centre. Image by author.

⁶⁷⁵ The Broadwood retail books include listings for pianos made by Erard, Chappell, Bechstein, and many other makers. If the instrument was second hand it was marked as "S/H." "Broadwood Retail Sales Books." 2185/JB/4/4. Surrey History Centre.

23.5.42 R. N. War Amenities Fund. S/H Boyd B. 3246
 Res House organ
 Regent St. S.W. 1.
 Inv/5375
 12d B Jan - Dec '42
 " D " " "

Figure 13. Retail sales entry for a second hand Boyd organ sold to the Royal Navy War Amenities Fund on 23 May 1942. "Broadwood Retail Sales Books" 2185/JB/4/4. Surrey History Centre. Image by author.

23.11.44 City of Leicester Education Committee. S/H J.B. uprigts
 Education Stores Office. Model 10. 94988. 675
 New 20 R.S. R/W. B. 3336.
 Leicester.
 Inv/5498A
 Mod. 10 to mod. 45
 Com. B & D
 each 12d
 S/H J.B. uprigts
 Model 53. 119511. 685
 R/W. B. 3334

Figure 14. Retail sales entry for second hand John Broadwood and Sons upright pianos Model 10 and Model 53 sold to the City of Leicester Education Committee on 23 November 1944. "Broadwood Retail Sales Books" 2185/JB/4/4. Surrey History Centre. Image by author.

The revenue earned from retail sales took a dramatic plunge during 1938, when Europe was on the brink of war. The company suffered its worst sales year in 1941, when retail sales amounted to only £2,271.

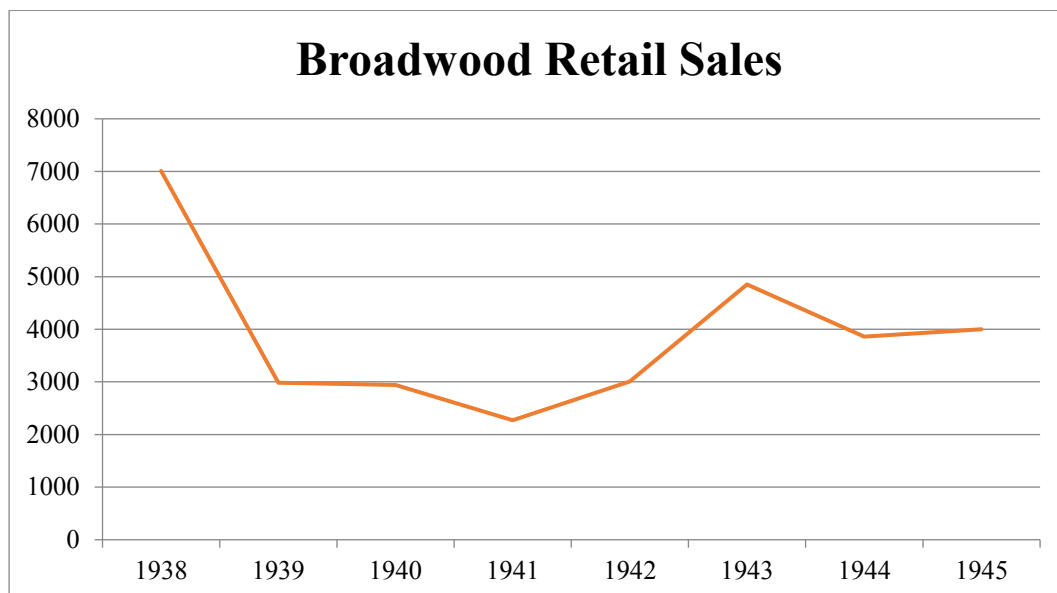


Table 17. Chart showing the revenue earned from the retail sales of the Broadwood showroom during the wartime period. Figures compiled by author from the “Retail Sales Books” 2185/JB/4/4. Surrey History Centre.

A better picture of the financial situation of the company can be seen when both the retail and wholesale figures are compared. In 1938 the company earned around £20,000 annually from sales, compared to 1944 when the company earned around £4,000 in total.

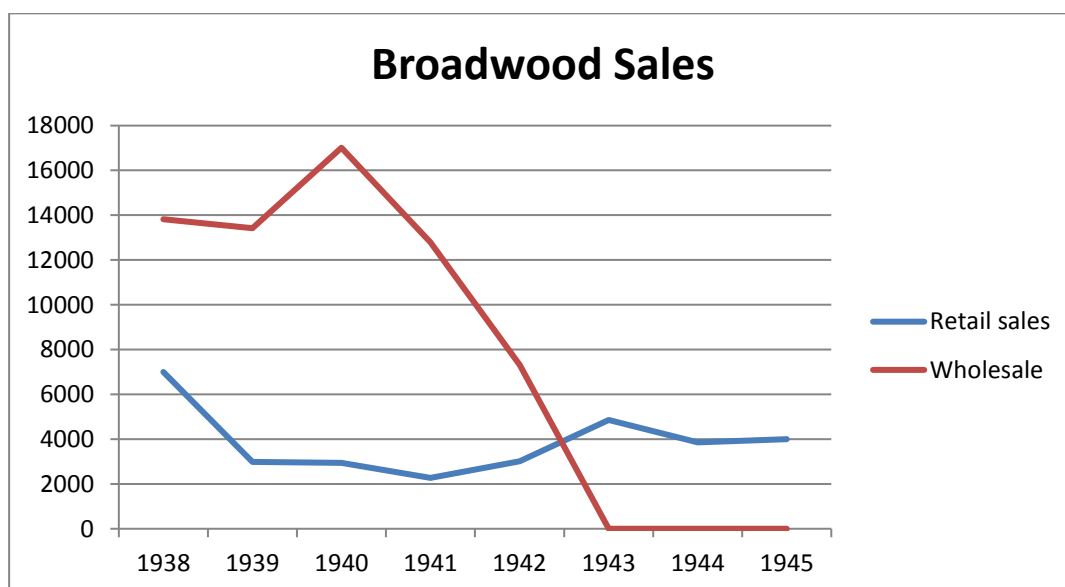


Table 18. Chart showing combined revenue of retail and wholesale for John Broadwood and Sons. Figures compiled by the author from the “Retail Sales Books.” 2185/JB/4/4. Surrey History Centre.

The company's correspondence elucidates the situation in London during the war. Many of the letters were from people writing to the company to say that their piano was destroyed in a bombing (including a letter from the Controller to the Archbishop of Canterbury); other letters were sent asking for the company to send tuners to come and tune the pianos. During the Blitz, Broadwood received a letter from one of its tuners, a man named H. Becher, writing in to say he could not be at work because his brother and sister had died when their house was bombed.⁶⁷⁶

The Broadwood company did not escape the bombings of London. The company's warehouse, where it was storing many instruments for customers, was bombed in October 1940.⁶⁷⁷ The factories of Broadwood were also bombed numerous times. It was reported that the Old Ford factory suffered damage in December 1940, July 1944, and August 1944. The Brunel Road factory suffered damage in February 1944 and July 1944.⁶⁷⁸ Repairing the damage to the buildings would continue to be a financial burden to the financially strained company until 1945, when it received insurance payments for the damage.⁶⁷⁹

Post-War Planning and Reconstruction

Even though Broadwood was reduced to selling second hand pianos from 1943, the company planned for the return of piano production throughout the war. The company continued to take orders for exporting pianos even though they could not get an export licence, but they promised that the orders would be executed the moment the ban was lifted.⁶⁸⁰ The company also planned on how the post-war piano should look and what materials could be used. Broadwood was thinking big and decided that the grand pianos should be "nothing smaller than a five-foot instrument" and models were proposed to be 5', 5'7" and 6'. These sizes would be larger than the instruments produced before the war.⁶⁸¹ The company also proposed a new lighter iron frame

⁶⁷⁶ "Correspondence" 2185/JB/4/3. Surrey History Centre.

⁶⁷⁷ "Letter to Miss Blount," Correspondence. 2185/JB/4/3. Surrey History Centre.

⁶⁷⁸ "Minutes of the Board Meetings 1940-1944" *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁷⁹ Wainwright, *Broadwood by Appointment*, 308.

⁶⁸⁰ "Minutes of the Board Meeting Held on Wednesday 24th March 1943," *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁸¹ *Ibid.*

produced by The Crown Foundry. The lighter metal would be less expensive to ship, especially for foreign trade.⁶⁸² The company even arranged for a new experimental grand to be made at the Whelpdale factory in 1944 using the lighter frame and with larger proportions.⁶⁸³

A very important decision the company made during the last year of the war was that Whelpdale promised to undertake all possible manufacture for the post-war period on behalf of Broadwood and Sons and that Broadwood instruments would use the Welmar string scale.⁶⁸⁴ This decision meant that there would be very little difference between a Whelpdale-made Welmar piano and a Whelpdale-made Broadwood piano. This meant there was no difference in the construction of the pianos except the name plate on the key cover.⁶⁸⁵

Post-War

In February 1945, the long wait for the return to piano production seemed to be coming to an end when the company received the news that it would be granted an export licence for approximately 500 instruments in the coming months.⁶⁸⁶ However, it would take almost a year before production was fully resumed. Throughout this period the company was plagued by shortages of materials, machinery, and labour. In addition, it took until May 1946 for the company to return to its Brunel Road factory. When it did regain ownership of the building, the company had to re-install all of its equipment and clean the mess and repair damages left behind by Newbold and Co. It would take

⁶⁸² "Minutes of the Board Meeting Held on Thursday 3rd February 1944," *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁸³ The instrument would later be rejected because it would not be up to Broadwood standards.

"Minutes of the Board Meeting held on Thursday 19th October 1944," *Board of Directors Minute Books 1933 – June 1944*. 2185/JB/4/4. Surrey History Centre.

⁶⁸⁴ Each piano manufacturer has its own "scale" for its instruments. The scale refers to the graduated length and thickness of the strings along the compass of the keyboard.

⁶⁸⁵ "Minutes of the Board Meeting Held on Thursday 19th October 1944," *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

⁶⁸⁶ "Minutes of the Board Meeting Held on Thursday 8th February 1945," *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

until November of that year to resume piano production. Until then, pianos continued to be manufactured at the Whelpdale factory.⁶⁸⁷

As production resumed the company was only allowed to produce instruments for export as the sale of pianos to the domestic market remained banned and the Purchase Tax continued to stand at 100%. The company continued to sell second hand instruments and after the end of the war, these sales rose dramatically. Even King George VI purchased a second hand piano from Broadwood.

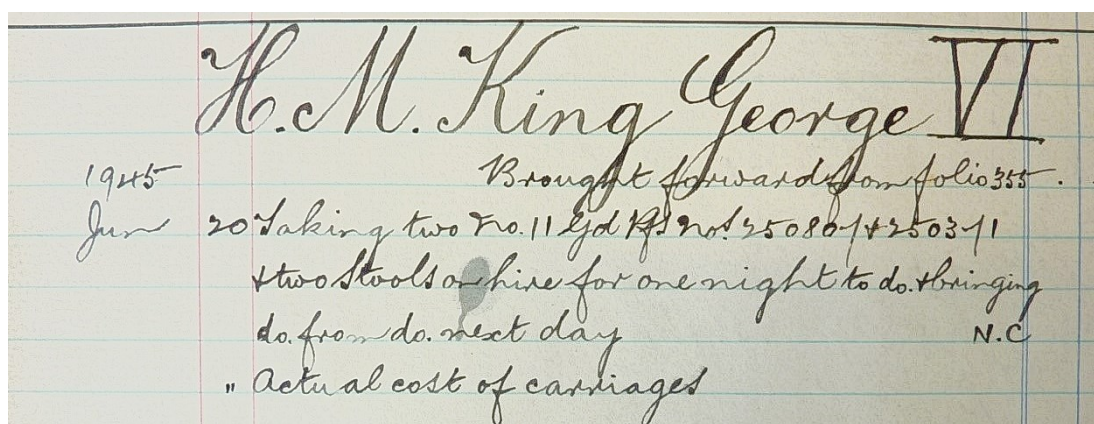


Figure 15. Image from the retail sales book showing a second hand piano being sold to King George VI. "Broadwood Retail Sales Books" 2185/JB/4/4. Surrey History Centre. Image by author.

The company began to export instruments to Holland, Belgium, Portugal, New Zealand, Iceland, and Australia.⁶⁸⁸ The company took in many orders for export instruments, but it was continuously unable to fulfil the orders because of ongoing labour shortages. In September 1946 the company was only able to produce 46 of the 200 pianos promised.⁶⁸⁹ From February until December 1946, Broadwood and Sons manufactured only 54 pianos.⁶⁹⁰ Once the Brunel Factory was operational, the

⁶⁸⁷ "Minutes of the Board Meeting Held on Thursday 10th January 1946," *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

⁶⁸⁸ "Minutes of the Board Meeting Held on Wednesday 27th November 1946," *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

⁶⁸⁹ "Minutes of the Board Meeting Held on Tuesday 24th September 1946," *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

⁶⁹⁰ "Minutes of the Board Meeting Held on Wednesday 27th November 1946," *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

company was able to meet demand and by May 1947, Broadwood and Sons had shown a profit for the first time in eight years.⁶⁹¹

The years immediately following the war continued to be difficult for Broadwood. The Purchase Tax remained prohibitive towards domestic sales until it was repealed in 1953. During this time Broadwood concentrated on exporting all of its production and it expanded its export market to Holland, Switzerland, Germany, Japan, Singapore and Thailand.⁶⁹²

Throughout the 1970s and 80s the firm continued to decline as it could not compete with imported Japanese pianos. Despite celebrating its 250th anniversary in 1978, Broadwood and Sons was in bad financial shape and it was sold in 1988 to a consortium headed by businessman Geoffrey Simon.⁶⁹³ In 2006 Simon died and the company was sold to Alastair Laurence, who moved the firm to Goudhurst, Kent. Although technically still in business, Broadwood and Sons employed only four people as of 2013 and relied mainly on tuning and repair work.⁶⁹⁴

⁶⁹¹ "Letter to T. B. Watkin, Esq., General Manager John Broadwood & Sons, Ltd., 9 Hanover Street, London, W.1. from P.J. John, G. Jessup, S. C. Treven, 28th May 1947." *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

⁶⁹² Wainwright, *Broadwood by Appointment*, 310.

⁶⁹³ Charles Darwent, "Piano Forte," *Management Today* (June 1994), accessed 11 February 2017, <https://www.questia.com/magazine/1G1-16126938/piano-forte>.

⁶⁹⁴ Paul Kendall, "How we fell out of tune with the piano," *The Telegraph*, 20 June 2013.

Chapter 7: Kemble and Company Case Study

The story of Kemble and Co. runs opposite to that of Broadwood and Sons during the war years. Kemble, a young company which focused on producing affordable pianos, was able to secure extensive government contracts during the war years. The contracts, to build components parts for aircraft, brought much needed revenue to the company and allowed the company to maintain its workforce, ultimately ensuring the company's success in the post-war era.

Another contrast between Kemble and Broadwood is that although Kemble is only a little over 100 years old, there are very few company records surviving or available for research (unlike Broadwood which has a remarkably well preserved archive). A number of documents are preserved at the Hackney Archives, London, but this archive contains very few items from the war years. Possibly the company records were transferred to the Yamaha Corporation when it acquired Kemble, but unfortunately those archives are not available for research or have not been preserved. The lack of archival information is typical of musical instrument manufacturers. The following information is gleaned from the records at the Hackney Archives, the papers of the Board of Trade, and from a personal interview with Denzil Jacobs, a former director of Kemble.

Historical Overview

Kemble and Co. was founded in 1911 by Michael Kemble.⁶⁹⁵ When the firm was established the company leased a "Warehouse and premises No. 53 Carysfort Road, Stoke Newington, in the County of London" for the term of 99 years.⁶⁹⁶ The area was popular with piano manufacturers and it was estimated that there were around 100 manufacturers in north London at the time Kemble was established. Areas in the

⁶⁹⁵ Michael Kemble would be joined by Mordechai Jacobs as co-directors of the company known as Kemble & Jacobs Limited. The two men would continue as co-directors until Michael Kemble's son Robert and Mordechai Jacob's adopted son Denzil took their places. Denzil Jacobs was the son of Mordechai's brother Sidney who died when Denzil was 8 years old. He was then adopted by his uncle. Julia Chain, "Denzil Jacobs" *The Jewish Chronicle* (27 December 2013).

⁶⁹⁶ Estate Land and Houses Limited, "Lease of Warehouse and Premises," 7 December 1911. 2009/46. Hackney Archives.

northern part of London, such as Camden Town, Kentish Town, Chalk Farm, Islington, Stoke Newington, and Hackney were popular with piano building because these areas had cheaper land and access to railroads.⁶⁹⁷

When Kemble began piano manufacture the company specialised in cheaper, wholesale and stencil pianos.⁶⁹⁸ The firm became successful and during the 1920s the company expanded. In 1923 Kemble acquired an adjacent factory, adding to its piano production capacity and in 1925 the company purchased the firms B. Squire & Son and J. Wallis & Son, Ltd. Throughout this time, pianos manufactured by Kemble were marked with tradenames or were left blank for retailers to add their own name to the fall board. The pianos were “middle of the road pianos made for the ordinary home.”⁶⁹⁹

In the 1930s the firm made a name for itself, both literally and figuratively, as it worked on the development of smaller, modern piano designed for modern homes.⁷⁰⁰ During this time the company filed seven patents related to the development of what would become the “Minx” range,⁷⁰¹ a style of piano that followed the trend of the “mini piano” popularised by Brasted Brothers. The Minx piano was the first piano to be labelled as a Kemble instrument and the range became a big success.

⁶⁹⁷ Oliver, 277.

⁶⁹⁸ Denzil Jacobs, interview.

⁶⁹⁹ “Denzil Jacobs,” video, NAMM, accessed 24 November 2016, <https://www.namm.org/library/oral-history/denzil-jacobs>.

⁷⁰⁰ “Mr. M. V. Jacobs achieves the triple crown” newspaper clipping, undated. 2009/46. Hackney Archives.

⁷⁰¹ Patents include GB429809A of September 1934; GB431665A of August 1934; GB452862A of January 1936; GB468499A of December 1936; GB481548A of April 1947; GB486265A of July 1939; and GB499164A of March 1938. Google Patents, accessed 24 November 2016, <https://patents.google.com/?assignee=mordechai+jacobs,Michael+Kemble>



Figure 16. Minx piano. Undated. Kemble and Co. records. 2009/46. Hackney Archives. Image courtesy of the Hackney Archives.



Figure 17. Minx piano. Undated. Kemble and Co. records. 2009/46. Hackney Archives. Image courtesy of the Hackney Archives.

With the success of the Minx, Kemble and Co. continued to expand. It acquired Rogers Eungblut, Ltd.⁷⁰² and Squire & Longson⁷⁰³ in 1936, and Moore & Moore in 1938.⁷⁰⁴ According to Denzil Jacobs, by the end of 1938, Kemble was the largest manufacturer of pianos in Britain and employed over 150 men, most of whom were woodworkers and polishers.⁷⁰⁵



Figure 30. Soundboards, frames, and strings of pianos waiting further assembly at the Kemble factory, circa 1940. Kemble and Co. records. 2009/46. Hackney Archives. Image courtesy of the Hackney Archives.



Figure 31. Archival image of the Kemble factory, circa 1940. Hackney Archives. Kemble and Co. records. 2009/46. Hackney Archives. Image courtesy of the Hackney Archives.

⁷⁰² M. Kemble, Esq. & Anor & Rogers Eungblut, Ltd., “Assignment,” 11 March 1936. 2009/46. Hackney Archives.

⁷⁰³ M. Kemble, Esq. & Squire & Longson, Ltd., “Assignment,” 11 March 1936. 2009/46. Hackney Archives.

⁷⁰⁴ Moore & Moore Pianos Limited., “Assignment,” 21 July 1938. 2009/46. Hackney Archives.

⁷⁰⁵ Denzil Jacobs, interview.

Before the start of the Second World War, Kemble offered a variety of sizes of pianos – including uprights (both vertical and overstrung), miniatures, and grands. The complete range of Kemble pianos for the year 1939 is as follows.

Piano type	Model	Description	Wholesale	Retail
Vertical upright	STV		£19 00s 0d	30 guineas
	E Streamline		£19 15s 0d	32 guineas
	Marvel		£20 00s 0d	33 guineas
Overstrung upright	Midget	6 oct.	£19 15s 0d	32 guineas
	S.N.	7 oct.	£22 10s 0d	36 guineas
	C. Streamline	7 oct.	£23 15s 0d	38 guineas
	Jubilee	7 oct.	£23 15s 0d	38 guineas
	FY	7 oct.	£25 00s 0d	40 guineas
	D	7 oct.	£25 10s 0d	41 guineas
	Cubist Mahogany	7 oct.	£26 10s 0d	43 guineas
	Cubist Walnut and Green	7 oct.	£27 10s 0d	45 guineas
	Cubist Maple and Walnut	7 oct.	£29 10s 0d	48 guineas
	N.S. Ivorette Keys	7 ¼ oct.	£28 00s 0d	44 guineas
Miniature	Minx Mahogany		£26 00s 0d	39 guineas
	Minx Coloured to any shade		£28 00s 0d	44 guineas
	Minx Green or Walnut Edging		£29 00s 0d	44 guineas
	Minx – Louis XV style		£29 00s 0d	44 guineas
Grands	Miniature (3ft. 6ins.)	6 oct.	£33 10s 0d	49 guineas
	Miniature – Ivorette keys (4ft.)	7 ¼ oct.	£39 00s 0d	60 guineas
	Miniature – Ivory keys (4ft.)	7 ¼ oct.	£41 00 0d	63 guineas
Optional additions	Grands in Walnut		+ £3 00s 0d	+ 5 guineas
	Streamline or Olympia Model		+ £1 00s 0d	+ 2 guineas
	Cabriole legs		+ £3 00s 0d	+5 guineas ⁷⁰⁶

Table 19. Compiled prices from the “Wholesale Price List for 1939” and the “Retail Price List for 1939.” Kemble and Co. records. 2009/46. Hackney Archive.

⁷⁰⁶ Although the guinea had been replaced by the pound in 1816, the term was used still used, especially in the sale of land, horses, and artworks. It equated to 21 shillings, or £1.05 in decimalised currency.

It is interesting to note that Kemble's Minx pianos were sold at comparable prices to the more expensive upright models. In addition, the "grand" pianos were miniature or baby grand size, each measuring 4 feet or less. The sizes of the instruments matched the trend for smaller pianos of the 1930s and also appealed as more affordable options for households who wanted a grand piano but who could not afford, or did not have the room for, a full-sized instrument.

Wartime Preparations

Being the largest piano manufacturer in Britain was an advantage to Kemble when the Second World War broke out. Kemble had extensive factory space and a large workforce, two factors which helped the company receive war production contracts. The full extent of the company's war work is unknown at this time, but according to Denzil Jacobs, at the start of the war Kemble approached the aircraft industry for contracts and was granted a trial order from de Havilland for wooden parts including bomb doors and bodies for the DH-98 Mosquito bomber. The trial order was deemed satisfactory and production increased. By 1941 the entire factory had been converted to airplane production.⁷⁰⁷

Jacob's narrative of Kemble's war-time story has some difficulties. Firstly, de Havilland did not begin to build Mosquito aircraft in any great numbers until 1942 (see Chapter 4 for production schedule). Secondly, there is no record of Kemble having direct contracts with de Havilland in the company archives,⁷⁰⁸ and lastly, Kemble had contracts to build pianos for the N.A.A.F.I. in 1942⁷⁰⁹ and it would be difficult to build pianos if the "entire factory" had been converted. That said, Kemble did receive extensive war production contracts. It is unlikely that the factory had turned completely to war production by 1941, but by 1942 the company was heavily involved in building items for the war effort. These war-production contracts helped Kemble survive and ultimately flourish in the post-war period.

⁷⁰⁷ Denzil Jacobs, interview.

⁷⁰⁸ Ralph Steiner, Operations Director de Havilland Aircraft Museum, email message to author, 10 August 2016.

⁷⁰⁹ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

War-time Piano Production

As piano production became more limited because of material control orders and limitation orders, and selling to the home market virtually impossible because of the purchase tax, Kemble was in a better situation than most other piano companies because of its experience in exporting pianos. At the start of the war, Kemble was the largest U.K. exporter of pianos and it had markets in Australia, New Zealand, South Africa, and the U.S.A.⁷¹⁰ The company would rely on these export networks for orders in the early years of the war when companies were forced to sell only to the export market. In 1939 the company exported £11,836 worth of pianos and by May 1940 the firm had exported £5,115 worth of pianos with another £3,296 worth of orders on hand.⁷¹¹ The export turnover of £11,836 in 1939 was almost double the amount of any other piano manufacturer of the time.⁷¹²

Although the piano trade was shrinking during the war, Kemble continued to acquire companies and tradenames during the period. For example, in March 1940, Kemble bought the rights to use the name Paul Newman & Son on pianos and agreed to pay one shilling per piano to the Allied Music Traders for use of the name.⁷¹³ Other names used by Kemble during this time were B. Squire and Son Ltd., Squire and Longson Ltd., Rogers Eungblut Ltd, and Moore and Moore.⁷¹⁴

As the largest piano producer, Kemble was issued a nucleus certificate on 6 September 1941. Two other pianos firms concentrated with Kemble during this time, they were Buckland & Co., Ltd. and King Bros. Pianos Ltd., both of which were closed for the remainder of the war.⁷¹⁵

⁷¹⁰ "Factual Survey of the Piano Industry Appendix B," March 1942. BT 64/1786. National Archives.

⁷¹¹ Ibid.

⁷¹² This is compared to the export report of Monington & Weston who reported an export turnover of £6,243 for 1939 and Challen who reported exporting £6,116 for 1939. These companies were the closest in competition to Kemble in regard to the export trade. Ibid.

⁷¹³ Paul Newman & Sons to Messrs. Kemble and Co., letter, 29 March 1940. 2009/46. Hackney Archives.

⁷¹⁴ A trade name is a pseudonym used by companies to sell items under a name other than their registered legal name of the business. Many piano manufacturers used a variety of trade names on their instruments. Wholesale piano makers used these names to designate quality levels of the instruments. These firms would purchase the names of older, established firms whose name signified quality or they would create names that were meant to sound expensive or foreign (like a German-sounding name) that would appeal to a specific customer base.

⁷¹⁵ "Factual Survey of the Piano Industry Appendix B," March 1942. BT 64/1786. National Archives.

In January 1942 two new rules put a damper on Kemble's exporting business. During this month the Board of Trade made it a requirement for piano firms to obtain an export licence for pianos and as part of the Lend Lease Agreement a ban was placed on shipping any instrument made partially or wholly of any non-ferrous metals anywhere in the western hemisphere. Both of these rules greatly diminished Kemble's ability to sell to the export market, but the cessation of all export licences in April 1942 brought it to a halt. Instead, Kemble, like all other piano manufacturers turned to the Government for piano-making contracts.

One such contract was a licence (D. 3/30) to manufacture 30 pianos for the N.A.A.F.I. to be completed by 31 October 1942.⁷¹⁶ In total the company sold £17,448 49s 5d worth of pianos in 1942.⁷¹⁷ Because of restrictions and then cessation of piano exports by April of that year, the majority of these sales would have been to the Government. By the end of 1942 Kemble had £6,039 18s 9d worth of piano stocks stored in its factory, but whether any of these stocks were assembled into pianos and sold in 1943 is unknown.⁷¹⁸ In June 1943, Kemble's nucleus certificate was withdrawn and Kemble ceased all piano production.⁷¹⁹

War Production Contracts

Even if the Kemble company had not completely converted to war production by 1941, the company was completely converted after the last of its pianos were produced for the N.A.A.F.I. at the end of 1942. The contracts Kemble was able to secure were to make airplane component parts and were most likely secondary contracts. According to the December 1942 Balance Sheet of Kemble and Co., Kemble had £14,538 17s 7d amount of stocks on hand of aircraft components in the factory and had sold £127,197

⁷¹⁶ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁷¹⁷ "Kemble & Co. year-end report and balance sheet, 31 December 1942." 2009/46. Hackney Archives.

⁷¹⁸ Ibid.

⁷¹⁹ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture," letter, June 1943. BT 64/1783. National Archives.

6s 8d worth of aircraft components that year.⁷²⁰ This is a substantial amount of revenue, especially in comparison of the number of pianos that were sold in 1942.

The balance sheets for the remainder of the war years have not been preserved in the documents at the Hackney Archive, but if Kemble solely made parts for the de Havilland Mosquito, as stated by Denzil Jacobs, then it can be assumed that the contracts for the remaining war years continued to be substantial. For example, in 1942 de Havilland made 432 Mosquito aircraft in the United Kingdom and Kemble sold £127,197 6s 8d worth of aircraft components. The production rate of Mosquitos continued to grow in 1943 with 577 aircraft produced, and increased to 2339 in 1944. If Kemble continued to produce component parts for these aircraft, then it can be surmised that their sales would expand during these years as well. In 1945 the number of Mosquitos manufactured fell to 1991 aircraft and by 1946 only 249 aircraft were produced in the U.K.⁷²¹

War-time Advertisements

Throughout the war period, Kemble maintained advertising in the *Music Trades Review*. Their advertising campaign focused on the war effort, often making fun of their enemy, and is worth mentioning for its clever cartoons and humorous poetry. The advertisements always extolled the virtue of Kemble pianos and often pointed out that the company was producing items for the war effort. The pugnacious attitude of the company in the face of a dangerous period brought humour to the often bleak *Music Trades Review* articles.

⁷²⁰ “Kemble & Co. year-end report and balance sheet, 31 December 1942.” 2009/46. Hackney Archives.

⁷²¹ “Production output of de Havilland Mosquito aircraft produced in the United Kingdom from November 1940 to November 1946.” www.mossie.org (Accessed 04/04/2016).



Figure 32. Kemble advertisement from 1939. At this time the company was focusing on the piano trade and the quality of Kemble instruments. *Music Trades Review*, October 1939, 316.

As the potential for ending the war became more of a reality with the Allied invasion of Normandy, Kemble's advertisements took on a more hopeful note, as can be felt in this poem from June 1944.

Pianos by Kemble were all the rage
Some time back in the peaceful age
The war's been on for many a year
And a shortage of Kembles you've had to bear
But now the Second Front's begun
It won't be long before we've won
Then we will stop our Work Essential
And concentrate on Pianos by Kemble.⁷²²

In 1945 the tide of war had turned and Kemble advertising was bold in its statement. "Booming for Victory" was the sentiment of the company.

⁷²² Kemble advertisement. *Music Trades Review*, June 1944, 193.

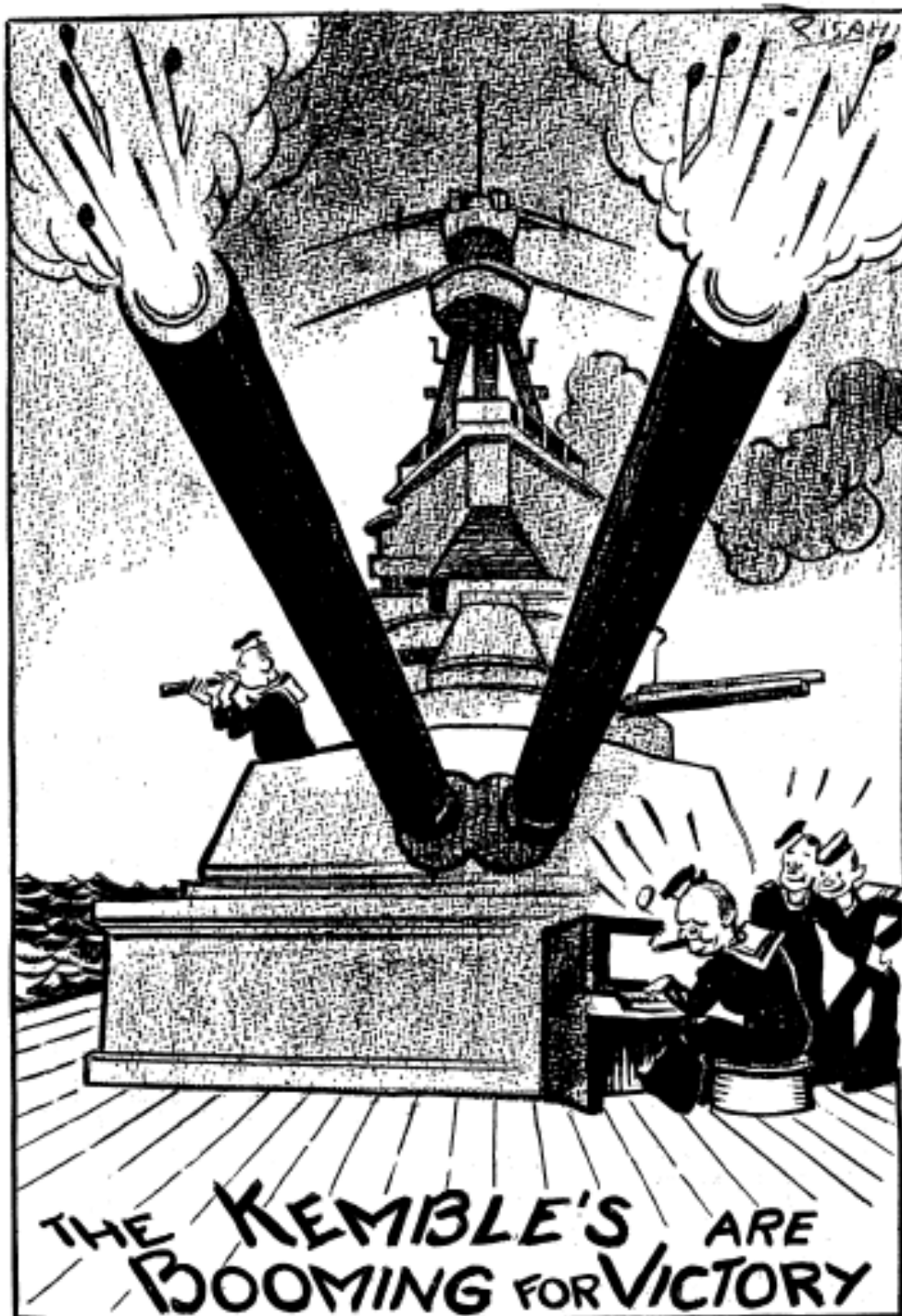


Figure 33. Kemble advertisement. *Music Trades Review*, January 1945, 71.

Post-War Era: Recovery and Expansion

When the war ended, Kemble faced the same challenges as the rest of the piano industry. Raw materials were scarce, the Purchase Tax was high, production for the domestic market was forbidden, and companies had to wait for the return of their labour and factories. Although these were difficult barriers to overcome, Kemble had a number of advantages over its competitors. Because the company had switched to war production, Kemble was able to maintain much of its workforce, meaning the firm did not have to wait for its labour to be released from priority manufacturing. In 1946 de Havilland continued to manufacture Mosquito aircraft, although in limited numbers compared to the war years, and this brought revenue to the company as it transitioned back to piano production and waited for materials to become available. As the post-war period emphasised export for piano manufacturers, Kemble returned to its previous markets for piano sales. The firm even began building new markets in war-ravaged Europe. According to Brian Kemble, his father, Robert Kemble, travelled across Europe by car at the end of the war, selling pianos while still wearing his army uniform.⁷²³

According to Denzil Jacobs, much of Kemble's post-war prosperity was due to the company's war-time production. In the post-war era Kemble pianos had a reputation as well-built, affordable instruments. According to Jacobs, the stability of the instruments came from lessons learned during the war years. He said, "we made parts for Mosquitos, which were all-wood aircraft and had to learn how to put them together so that they stayed that way."⁷²⁴ Through their war work, the company began using new glues, perfected laminating woods, and gained more knowledge of factory efficiency in its production line.⁷²⁵ This new knowledge was on display at the British Industries Fair of 1947 when the company pushed its pianos that could withstand tropical climates. At the fair the company advertised as "Manufacturers of Kemble, B.

⁷²³ Neil Buckley, "Europe welcomes mellow sound," *Financial Times* (Tuesday April 21, 1992).

⁷²⁴ "Denzil Jacobs," video, NAMM, accessed 24 November 2016, <https://www.namm.org/library/oral-history/denzil-jacobs>.

⁷²⁵ Newspaper clipping in the papers of the Kemble and Co. records. No title or date given. 2009/46. Hackney Archives.

Squire, Moore and Moore, Squire and Longson and Rogers-Eungblut Pianos. The "Minx" Miniature Model. Tropical Models a Speciality."⁷²⁶

During the post-war era Kemble continued to acquire the naming rights of different piano makers. On 8 April 1946 Kemble acquired all the naming rights of the name "Squire" for the fee of £400. The agreement, written from a representative of Squire,⁷²⁷ reads as follows:

I hereby undertake that I will not at any date hereafter, manufacture or sell any piano or cause, permit or allow the same to be sold or manufactured in the name of "H. Squire" or any other name including the name "Squire" or in any name which may be confused with the name "Squire." Nor will I use any such name or names or allow any firm or Company wholly or partly under my control, to use the same for any business or trade or other purpose connected, directly or indirectly with the manufacture or sale of pianos.⁷²⁸

In addition to Squire, in the post-war era Kemble made pianos under many other names, including Barnes, Bijou, Boyd, Brinsmead, Chappell, Cramer, D'Almaine, Dresdner, Firth, Higgins, Minx, Osbert, Regent, Renn, Rogers, Rogers Eungblut, Saville, Sebastian, Shenstone, and Stiles. The company often made identical pianos but sold them under different names.⁷²⁹ A visualisation of the many different brands that would come under Kemble's control (and then eventually Yamaha) is shown below.

⁷²⁶ "Kemble and Co." Grace's Guide to British Industrial History, accessed 25 November 2016, http://www.gracesguide.co.uk/Kemble_and_Co.

⁷²⁷ Unfortunately, it is difficult to read the signature on the agreement. The name appears to be R[?]NN.

⁷²⁸ Letter to Messrs. Kemble & Co., 8 April 1946. 2009/46. Hackney Archives.

⁷²⁹ Bill Kirby, "Piano names and aliases," Piano History Info., accessed 25 November 2016, <http://www.pianohistory.info/names.html>.

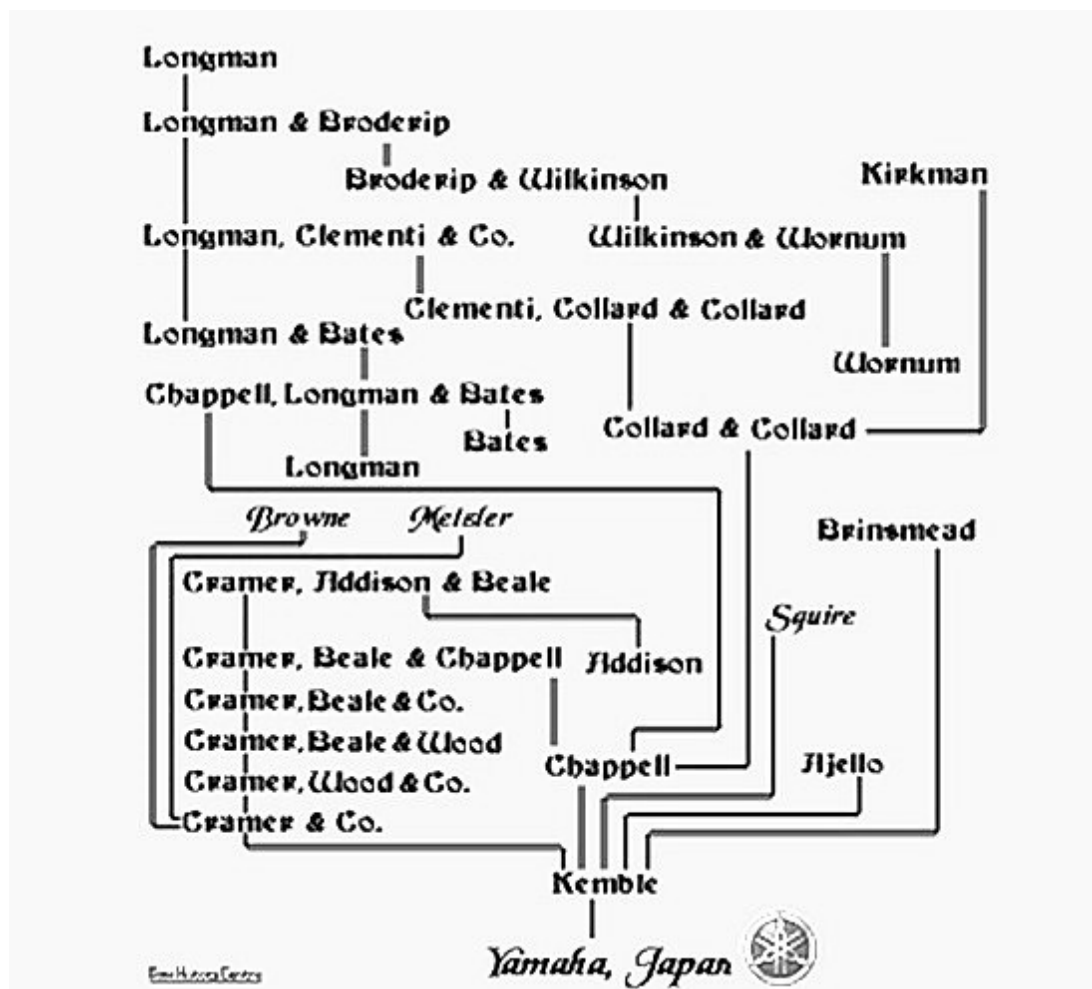


Figure 18. Trade names and brands associated with Kemble and Co. Image courtesy of Bill Kirby <http://www.pianohistory.info/names.html>.

In 1948 two important people joined Kemble and Co., Robert Kemble and Denzil Jacobs. These men, the son and adopted son of the co-directors of the company, had both served in the military and when they returned from the war they both began working for the “family business.”⁷³⁰ The two men would lead Kemble in the post-war era, leading the transition back to piano production and ultimately creating connections that would keep Kemble in business long after other British piano manufacturers had shut their doors.

⁷³⁰ “Denzil Jacobs,” video, *NAMM* (accessed 24 November 2016), <https://www.namm.org/library/oral-history/denzil-jacobs>.

In the 1950s the need to expand production to match growing sales led the company to move from its factory in Stoke Newington to a new “state-of-the-art” factory in Bletchley, near Milton Keynes.⁷³¹ The company continued to expand throughout the 1950s and 1960s.

Even as Kemble expanded its production and maintained its status as a leading British piano manufacture, the industry as a whole had to compete with a new opponent. In the 1960s pianos made in Asia by companies such as Pearl River, Kawai, and Yamaha began to be imported into the United Kingdom.⁷³² Rather than competing with the new influx of pianos, Kemble saw an opportunity and went into partnership with Yamaha Corporation of Japan in 1968. This was a bold move at the time and was spearheaded by Denzil Jacobs.⁷³³ The partnership helped Kemble continue to flourish and in 1969 the company made more than 6,300 pianos.⁷³⁴

The Last Major Piano Manufacturer to Close its Doors

The partnership with Yamaha would keep Kemble and Co. in business during turbulent times in the British piano industry. An important milestone in the partnership was in 1985, when Kemble and Co. began to manufacture acoustic pianos for Yamaha to be sold in the United Kingdom. By 1991, 75% of the pianos manufactured by Kemble were exported under the Yamaha name with the remaining production made under the name Kemble or Chappell of Bond Street.⁷³⁵ Over 23 years Kemble & Co. manufactured over 120,000 pianos for Yamaha.⁷³⁶ The large export numbers led Kemble and Co. to be recognised in 1992 with The Queen’s Award for Export

⁷³¹ “Kemble History,” Kemble Pianos, accessed 25 November 2016, <http://kemble-pianos.com/en/history/>.

⁷³² “A History of the Piano, 1157-2014” UK Piano Page, accessed 25 November 2016, https://www.piano-tuners.org/history/history_1.html.

⁷³³ Julia Chain, “Denzil Jacobs” *The Jewish Chronicle* (27 December 2013).

⁷³⁴ Newspaper clipping in the papers of the Kemble and Co. records, no title or date given. 2009/46. Hackney Archives.

⁷³⁵ Neil Buckley, “Europe welcomes mellow sound,” *Financial Times* (Tuesday April 21, 1992).

⁷³⁶ “Doors shut at last UK piano maker,” BBC News, accessed 25 November 2016, <http://news.bbc.co.uk/1/hi/england/beds/bucks/herts/8333215.stm>.

Achievement. Kemble is the only British piano manufacturer to receive this distinction.⁷³⁷

According to Brian Kemble, the partnership with Yamaha saved Kemble from closure in 1986. Unfortunately, rising labour costs and declining sales of acoustic pianos in the United Kingdom contributed to Yamaha's decision to close the Bletchley factory in 2009. At the time Kemble was the only remaining large-scale piano manufacturer in Britain.⁷³⁸ The brand is now made by Yamaha in other parts of the world.⁷³⁹

⁷³⁷ "Kemble History," Kemble Pianos, accessed 25 November 2016, <http://kemble-pianos.com/en/history/>.

⁷³⁸ It could be argued that Kemble was the only remaining British piano manufacturer. By this point all other piano manufacturers had closed but Alastair Laurence had purchased Broadwood and Sons and had restarted the business. That said, he was not manufacturing pianos to any scale. Susan Tomes, "Kemble pianos: out of tune with the times," *The Guardian*, 30 October 2009.

⁷³⁹ Kathryn Hopkins, "Final Notes" *The Guardian*, 2 May 2009.

Chapter 8: Conclusions

This thesis has demonstrated that the Second World War had an irrevocable impact on the British piano industry. For fourteen years, the industry faced varying degrees of restrictions, limitations, and taxation, ultimately forcing many piano companies to close their factories and seek alternative sources of revenue, either by selling second hand instruments or converting their factories to war production. When the war finally ended, restrictions placed on piano manufacturing continued to negatively impact the industry. Although British piano manufacturers were able to grow their export market, domestic piano production was banned until 1949 and remained cost prohibitive to British consumers until 1953. By this time the television had become the preferred alternative form of entertainment and the British piano industry was never able to fully recover from the war.

The aim of this study was to document for the first time how the policies enacted by the British Government because of the needs of the war effort affected the piano industry. This was done in order to form a more complete history of the British piano industry, particularly during the twentieth century, which has not been subject to scholarly research. The finding suggests that the British war effort during the Second World War impacted the British piano industry not only during the war years, but also for the rest of the twentieth century.

This study has shown that the British piano industry, although much diminished from its nineteenth century position of prominence, was still a profitable industry at the beginning of the Second World War. The industry had suffered during the First World War and the inter-war years but had emerged from the Depression and was benefitting from an upsurge in sales in the mid-1930s, largely due to the popularity of the minipiano. When the war began, the renaissance of the British piano industry was halted as the mobilisation of the British economy required every industry to work towards the war effort. This thesis has demonstrated that the mobilisation effort was extensive and every aspect of manufacturing came under the control of the British Government and that the piano industry was most directly affected by the Board of Trade, the Ministry of Supply, and the Ministry of Labour and National Service. The materials used in the production of pianos, especially timber, iron, steel, and wool were

of particular importance to the British war effort and this thesis has shown that the control of these materials were some of the first restrictions placed on piano manufacturing during the war years.

In addition to material restrictions, this thesis presented how the Board of Trade, Ministry of Supply, and the Ministry of Labour and National Service used the Excess Profit Tax, Purchase Tax, Limitation of Supply Orders, and the Consolidation of Industry Scheme to force the complete cessation of piano manufacturing by August 1943. This was done to reduce consumer purchasing of non-essential items, divert materials to war production, and to release labour and factory space of the piano industry for the war effort.

As piano manufacturing became increasingly restricted and ultimately banned, the industry sought alternative sources of income with a much reduced labour force. This study explored the primary and secondary war production contracts obtained by the piano industry during the war years. It was discovered that the piano industry manufactured a variety of items including but not limited to pianos for the Government, furniture, coffins, and airplane components. Overall, it was presented that piano companies relied on the woodworking skill of their employees in order to secure war production contracts but not every piano company was successful in obtaining war work. It was shown that piano companies which produced cheaper, mass produced pianos were often more successful in obtaining war production contracts as they had a bigger workforce and larger factory, while smaller and more high-end piano producers had more difficulty in securing contracts. Additionally, it was shown that if a firm was able to secure war work then that firm could maintain its workforce, which was beneficial in the post-war years. Conversely, piano companies unable to secure war production work had to release labour, close their factory, consolidate with another firm, and rely on second hand piano sales until the reconversion process began.

It is interesting to note that this study showed that piano companies with war production contracts hired in additional labourers, some of which were women. At the end of the war these women were not kept on in the factory and the industry reported that they had difficulty in finding skilled workmen to build pianos. The study also explored how the movement of labour during the war years opened the door for unions

to re-unionise piano workers and that the unions had a keen interest in the reconversion of the industry.

In addition to establishing a timeline of the restrictions placed on the piano industry and its closure during the war years, this thesis documented the return to piano production in the post-war years. This study demonstrated that the restrictions and limitations placed on the piano industry lasted far longer than the years of conflict and that these post-war restrictions were just as damaging to the industry as the limitations placed on the industry during the war. One positive outcome of the war years was the Government's push for the piano industry to export instruments. Although the piano export trade was stopped from April 1942 until February 1945, during the reconversion process the Government encouraged the piano industry to expand its export market in the post-war era. To push piano makers to manufacture for export, pianos to be sent overseas were exempt from the Purchase Tax and material restrictions. Ultimately the piano industry was successful in expanding its export market and the profits made from these overseas sales maintained the industry in the post-war years.

This study showed that the most damaging aspect of the Government's intervention of the piano industry during the post-war years was the Purchase Tax. This tax made the cost of a new British piano prohibitive to the majority of the British public after pianos could once again be sold to the domestic market in July 1949. The tax, which was in place until 1953, prevented the piano industry from re-establishing itself in the home trade which then prohibited the industry from increasing production, hiring more workers, and thus lowering prices. The tax also continued the country's reliance on second hand pianos, which maintained their value in the post-war years.

Two case studies were presented which gave a more in-depth look at the effects of the war on individual companies. The findings in these case studies reiterated the issues presented in the preceding chapters and showed both the negative and positive aspects of the war period. The first case study explained how John Broadwood and Sons was adversely affected by the war. As a high-end piano firm, the company was unable to secure war production contracts and was forced to consolidate under Whelpdale, Maxwell and Codd because of the Consolidation of Industries Scheme. During the war years the firm maintained only a few of its staff and had to lease its factory to an

industry with war production contracts. The case study illustrated how it was difficult for Broadwood to return to piano production as the company needed to retool its factory and rehire workers and it took until May 1947 for the company to meet production demands. Ultimately Broadwood was never very successful in the post-war era. In contrast, this thesis showed how Kemble and Company profited from the war years. The firm, which mass produced affordable pianos, had a large factory and workforce and was able to secure numerous war production contracts including manufacturing airplane components for the de Havilland Mosquito. These contracts enabled Kemble to maintain its workforce and factory and in the post-war years the company was able to more quickly return to piano production. Unlike other British piano companies, Kemble expanded in the post-war years and according to Denzil Jacobs, former director of Kemble, the success of the company was largely due to its wartime work. Unfortunately, just like the rest of the British piano industry Kemble would ultimately struggle to compete with cheaper imported pianos and eventually closed in 2009.

This thesis has shown that the policies of the British Government towards the piano industry during and after the Second World War weakened the industry so much that in the decades after the war the industry never fully recovered and would ultimately fail. Many of these policies were essential to the war effort, and they were necessary in the post-war years in order to raise money to help pay the country's enormous war debt, but was the continued limitation of the British piano industry absolutely necessary in the post-war years? Could the British Government have helped the piano industry recover faster? In particular, the negative impact of the Purchase Tax on the piano industry prevented the industry from capitalising on the British public's desire to own new pianos. The prohibitive tax rate also prevented the industry from re-establishing itself within the hearts and minds of the British consumer during a time in which competition from German imports was non-existent as German products remained restricted in the immediate post-war years. Although it is unlikely that if the British Government had helped the piano industry quickly reconvert to domestic trade then the industry would have been able to compete with the television, the radio, and the availability of recorded music in the post-war years, but perhaps the British piano industry would have been stronger if they had been able to lower their prices through

increased production. This in turn may have made the British piano more marketable and affordable to foreign buyers. When Asian piano companies such as Yamaha, Kawai, and Pearl River began coming onto the market in the late 1960s and 1970s perhaps a stronger British piano industry could have remained competitive. Unfortunately, this is not the case and as cheaper Asian-made instruments flooded the market in the 1970s, British piano companies such as Brasted Brothers, Chappell, Cramer, and Monington & Weston closed down. This continued in the 1980s with the sale of Danemann, Stroud, and Broadwood and Sons. By 2003, the British Piano Manufacturing Company, which made pianos under brand names such as Bentley, Knight, Welmar, and Woodchester, went into liquidation; and in 2009, Kemble and Company, the last large-scale piano maker, closed. The failure of the British piano industry was complete, but perhaps it could have been prevented if piano makers had opportunities rather than restrictions in the post-war years.

The findings in this study were restricted by the limited availability of piano company records and this study would have been made more complete if additional company records were preserved and made accessible. It is possible that these documents have been kept in private hands, but until these materials are made available, the complete picture of the impact of the Second World War on individual piano firms cannot be fully documented. Additionally, it has been frustrating not to be able to find the Scottish Music Merchants Associations Journal of 1945, which according to an announcement in the *Music Trades Review*, listed the record of war work of the piano industry. This journal is not listed on WorldCat.org and has not been catalogued at the National Library of Scotland or the British Library. A search of council libraries in Scotland has also been fruitless. Research into secondary contracts has also yielded few results. As many of the piano companies were hired on secondary contracts for war production work, it has been difficult to trace the companies' work as it would be necessary to find the primary contract holders name and research their company records. For example, Kemble and Company stated that they made components for the Mosquito bomber, but the de Havilland Museum has no records of Kemble working for the firm. Most likely the piano company was hired by a contractor of de Havilland. Tracking down these contracts would be incredibly time consuming and it was decided

that investing time into this potentially unproductive search was not a priority for this thesis.

The time period of this study places focus on the years in which the British government had policies in place which affected piano production, mainly 1939-1953. But, in reality, this study could be expanded to 2009, as many of the restrictions of the war period continued to impact the industry until it closed its last factory in that year. However, this study is not intended to be a history of the demise of the British piano industry and instead sought to focus on the immediate impact of the Second World War on the industry. The fact that the effects of the war stretched far beyond the scope of this study was discovered during the course of research and would be an interesting topic for future research.

Additional areas for future research include looking into the histories of a number of piano firms which were referenced in the papers of the Board of Trade, but which have little documentation. This includes Triumph Auto Pianos (which I am curious to find out if it is related in any way to the Triumph Motor Company), Vaudeville Pianos, and Supertone. It is interesting that these three companies received contracts to make pianos for N.A.A.F.I., which implies that they were a large-scale piano producer, but the firms have no production information listed in the *Pierce Piano Atlas*. A comparison study of how the British and American governments restricted piano production would also be a worthwhile study, especially as the American industry was able to flourish after the war while the British industry floundered. Finally, a more comprehensive study of the changes in the labour of the piano industry in the post-war years could be undertaken, especially in regard to the influence of the unions in the reconversion of the industry and to see if women were integrated into the industry after the war.

As this study focused on the dialogue between the U.K. Government and piano manufacturers, it is limited in scope compared to the larger picture of how the Second World War affected music overall. For example, this thesis does not investigate how composers, musicians, and the general public dealt with the difficulty in obtaining instruments, and how this may have changed the type of music created or performed during the time and their voices would have added a human dimension to this study. It

is acknowledged that there is a larger discussion to be had around how the war affected music, but that was not the focus of this particular investigation, but is worthy of future scholarship.

Finally, this study has presented a historical record of the British piano industry during the war years and has documented how government policies affected the industry. It has established a clear timeline of production for the period and has laid the foundation for future studies of the decline of the British piano industry in the twentieth century. This study adds to the scholarship of research on the history of the British piano industry, of which would be incomplete without investigations into the impact of the war on the industry.

Appendix 1: Piano Firms Referenced in the Board of Trade Papers

The lack of company records of individual piano firms makes it difficult to fully understand the Second World War's impact on each firm. The scarcity of preserved records kept by the companies themselves means that in order to create a picture of the time, one must rely on other sources of information. Luckily, information on a number of piano firms was noted in the piano industry and reconstruction files of the Board of Trade. The information primarily focuses on the production of pianos for the war effort, but ancillary information regarding war production contracts also survives. The following is an exploration of the firms referenced in the papers with particular attention paid to the number of pianos produced during the war years, the concentration of the various piano firms, and how the companies rebuilt their business in the post-war era. The information found in the Board of Trade files is supplemented with research from the *Music Trades Review* and Alastair Laurence's two books.

Brasted Bros., Ltd.

Pre-war production. This piano company was founded circa 1870 by Harry Brasted. The firm primarily manufactured wholesale pianos and stencil instruments and the company used the names *Wigmore*, *Welbeck*, *Bannerman*, *Cumberland*, *Dorchester*, *Paul Gerard*, and *Reger* on their instruments.⁷⁴⁰ In 1920 the firm purchased Eavestaff, with origins dating back to 1823, and Brasted produced many instruments under this name.⁷⁴¹ In 1934 the company introduced the "Minipiano," an instrument design the firm purchased from C.A.V. Lundholm of Stockholm.⁷⁴² The instrument was incredibly popular, cost half the price of a regular upright pianos, and was produced in a variety of finishes and colours. The design of the minipiano became the dominant design of British pianos and helped to revitalise the industry in the 1930s.⁷⁴³ By the

⁷⁴⁰ Laurence, *More London Makers*, 23.

⁷⁴¹ Ibid, 19.

⁷⁴² Lundholm was not the inventor of the minipiano, That title belongs to the German manufacturer Erbe. In addition, Brasted was not the first company in Britain to manufacturer Erbe's designs. Henry Hicks & Sons produced a number of the small instruments in 1929 but they were not successful and the firm stopped production shortly thereafter. Ibid, 29.

⁷⁴³ Barrie Heaton, "Anonymous Piano (Brasted?)," UK Piano Page, accessed 20 November 2016, <http://188.65.114.254/piano-forums/viewtopic.php?f=2&t=103>.

1930s Brasted had the largest piano factory in Britain and at the time was regarded as the largest piano factory in Europe. At the end of 1934 the company had sold over 7,000 minipianos and by June 1938 this number reached 10,396.⁷⁴⁴

Piano production in the war years: The company continued to produce pianos until limitation orders and control orders prohibited their production for domestic and export markets.

⁷⁴⁴ Laurence, *More London Makers*, 25-29.



“MINIPIANO” Shatters BRITAIN’S BLACK-OUT

EAVESTAFF have launched another nation-wide publicity campaign to assist dealers in these days of black-outs and other inconveniences—which you, Mr. Dealer, with the aid of the world-famous “Minipiano,” can turn into better business. Through the medium of National and Provincial advertising, widespread window-displays, etc., Eavestaff are telling the public that the attractive “Minipiano” will brighten black-out evenings and be a boon to the family for a happy musical Christmas. So stock the Eavestaff “Minipiano” and be ready to cash in on the black-out. Write to-day for particulars of this the most sought-after agency.

“*The EAVESTAFF Pianette*
Minipiano”
 REGD. TRADE MARK

W. G. EAVESTAFF & SONS LTD., Ashfield Road, Haringay, London, N.4

Figure 35. Advertisement for the Eavestaff Pianette Minipiano. *Music Trades Review*, November 1939, 342-343.

Brasted was licensed to make minipianos for N.A.A.F.I. In February 1934, the firm employed 74 people in the production of pianos.⁷⁴⁵ In April 1943 the firm was licensed to make 24 minipianos for the N.A.A.F.I. and another six instruments to be supplied to other government agencies.⁷⁴⁶ The company was also under licence to produce pianos for the Admiralty.⁷⁴⁷ The firm's nucleus certificate was withdrawn by the Board of Trade in June 1943.⁷⁴⁸ In August 1943 Brasted sold its 13 remaining pianos to the N.A.A.F.I., after which the firm was shut down.⁷⁴⁹

Concentration: Brasted was granted a nucleus certificate and concentrated with Danemann, who closed its factory.⁷⁵⁰

War production: It is unknown if the firm had any alternative war production contracts at this time.

Exhibitor at the 1947 British Industries Fair: yes.

Post-war: In the post-war years Brasted no longer controlled the market on minipianos and faced competition from Kemble, Zender, Barratt & Robinson, and Monington & Weston. As time went on, the company fell behind other firms, eventually losing their competitive edge. The company's production fell from 220 pianos a week in 1955 to 100 pianos a week in 1956 and then dropped to fewer than 70 pianos a week in 1957. By 1963 the rate of production was no more than 30 pianos in a week and by 1968 this number was down to an average of 10.

Brasted purchased the Challen company in 1960 and produced an equal if not greater number of Challen instruments each week during the 1960s. As the trend for larger upright models returned in the 1960s, Brasted continued to produce small-scale

⁷⁴⁵ Ministry of Labour and National Service to Mr. Postgate, letter, 24 February 1943. BT 64/1783. National Archives.

⁷⁴⁶ J.E. Meldrum, "Note on the position with reference to supplies of pianos to N.A.A.F.I.," memorandum, 16 April 1943. BT 64/1783. National Archives.

⁷⁴⁷ J.E. Meldrum, "Letter to Mr. Clayton Ministry of Labour and National Service," letter, 14 April 1943. BT 64/1783. National Archives.

⁷⁴⁸ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture" memorandum, June 1943. BT 64/1783, National Archives.

⁷⁴⁹ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783, National Archives.

⁷⁵⁰ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

instruments and was not competitive with the influx of instruments made in Asia.⁷⁵¹ The company suffered significant financial loss after a failed attempt to produce an electro-acoustic piano around 1970. In the spring of 1970 the factory was closed and Brasted was sold to Barratt and Robinson.⁷⁵²

Chas. H. Challen & Sons, Ltd.

Pre-war production: Founded by William Challen in 1835. By the turn of the twentieth century Challen was known as a maker of medium-priced pianos.⁷⁵³ During the First World War the company began making good quality, but affordable, small grand pianos, most notably the Model 16 – a 5’ baby grand.⁷⁵⁴ The company suffered after the war due to competition from imported pianos from Germany and the United States and almost closed. Production fell to just over 100 pianos in 1922. The business began to turn around after William Evans took over and in 1937 the firm produced over 3,000 instruments in that year.⁷⁵⁵

Piano production in the war years: In 1939 Challen reported an export turnover of £6,116 worth of instruments. From January to October 1940, Challen sold £3,245 worth of pianos with another £1,109 orders on hand. At this time the firm exported pianos to Australia, India, South Africa, Malaya, and Iceland.⁷⁵⁶

⁷⁵¹ Laurence, *More London Piano Makers*, 35.

⁷⁵² Ibid, 37.

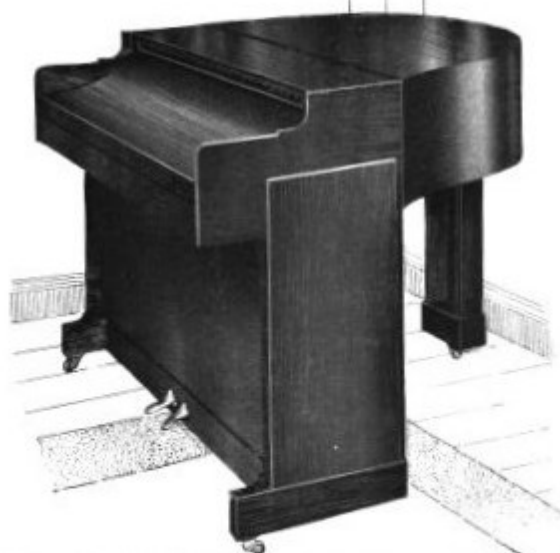
⁷⁵³ Laurence, *Five London Piano Makers*, 31.

⁷⁵⁴ Ibid, 36.

⁷⁵⁵ Ibid, 39.

⁷⁵⁶ “Factual Survey of the Piano Industry Appendix B.,” March 1942. BT 64/1786. National Archives.

"Out of Evil comes Good"



**THE GREATEST DEVELOPMENT IN
PIANO CONSTRUCTION OF THE CENTURY**

OUT of evil comes good." Far from bringing to a standstill the constant Challen work of improvement in Grand design and construction, the exigencies of the present times have actually brought us to what we sincerely believe to be our most wonderful and revolutionary development of all—the "DEMI-GRAND."

This unique instrument, while retaining in an en-

hanced form the beauties of the normal Grand Piano, by virtue of its scale being disposed uprightly and added resonating values of the casework, has a tone value of extraordinary volume and exquisite character.

In short, in the "Demi-Grand" we can now offer an instrument of "grand" appearance and first-class tonal value at the incredibly low prices of:

MODEL W.2.DG.

4 ft. approx. 1 1/2 in. deep in Mahogany
or Ebonised Full Polish Finish

59 Gns.

(Walnut
Satin Finish,
9 Gns.
extra)

MODEL W.3.DG.

4 ft. 1 in. approx. 3 7/8 in. deep in Mahogany
or Ebonised Full Polish Finish

66 Gns.

Design and construction protected by British Patents Nos. 424907, 400707, 400901, 401005 and/or Patent Application Nos. 2204/40

CHALLEN
"Demi-Grand"

Figure 19. Challen advertisement. *Music Trades Review*, March 1940, 48.

The firm had stopped manufacturing pianos by 14 April 1943 because it was working full-time for the Ministry of Aircraft Production, the Admiralty, and the Ministry of Supply.⁷⁵⁷

Challen was persistent in writing to the Board of Trade during the war years to ask for the release of supplies. For example, the firm applied to purchase “Rumanian Pine” in October 1943 in order to season the wood for post war production,⁷⁵⁸ but the application was denied.⁷⁵⁹ The company tried again in January 1944 when it applied for the release of 2,597 standards of softwood for seasoning purposes. Although E. A. Fisher from the Board of Trade was sympathetic to the company’s request especially since the timber was “lying idle,”⁷⁶⁰ the application was denied by P. Forbs of the Ministry of Supply. Forbs wrote that the Wood Division would find it hard to give facilities to one firm without having lots of firms and industries coming for the same privilege.⁷⁶¹

Experimental piano research: Challen applied to the Board of Trade for the release of materials to make three grand pianos and three upright pianos on 4 November 1943. Materials needed included:

- 12 cwt iron
- 37 lbs. copper
- 18 lbs steel
- 38 cu. ft. hardwood
- 25.5 cu. ft. softwood
- 56 sq. ft. plywood (3/16”)
- 66 sq. ft. plywood (1/4”)
- 113 sq. ft. Plywood (5/8”)⁷⁶²

⁷⁵⁷ J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, 14 April 1943. BT 64/1783. National Archives.

⁷⁵⁸ S. A. Hurren, Secretary of the Pianoforte Industries and Export Group to E. A. Fisher, Board of Trade. “Messrs. Chas. H. Challen and Sons,” 16 October 1943. BT 64/1783. National Archives.

⁷⁵⁹ Ibid.

⁷⁶⁰ E. A. Fisher, Board of Trade, to Professor P. Ford, Ministry of Supply, memorandum, 3 January 1944. BT 64/1783. National Archives.

⁷⁶¹ P. Ford, Ministry of Supply, to E. A. Fisher, Board of Trade, “Challens,” memorandum, 26 January 1944. BT 64/1783. National Archives.

⁷⁶² S. A. Hurren to E. A. Fisher, “Post War Research,” letter, 4 November 1943. BT 64/1783. National Archives.

Concentration: Challen did not concentrate with any other firms during the war years because it had received sufficient war production contracts and was considered “running full” (see Chapter 4 for stipulations of the Concentration of Industry Scheme).

War production: After April 1943 Challen was wholly engaged on Government Contracts⁷⁶³ which included working for the Ministry of Aircraft Production, the Admiralty, and the Ministry of Supply.⁷⁶⁴ Challen also had a staff member who did maintenance and repairs for pianos at the B.B.C.⁷⁶⁵

Exhibitor at the 1947 British Industries Fair: Yes. The firm advertised as “Manufacturers of Upright and Grand Pianos, specialising in the Production of the latter for Domestic, concert, and Broadcasting use.”⁷⁶⁶

Post-war: Although Challen was able to secure numerous war production contracts, the firm never recovered from the effects of the war. After the war the company never reopened its factory located in Hendon, but instead moved to the smaller *Omega Works* in Hermitage Road, Harringay by the early 1950s.⁷⁶⁷ The company was sold to Brasted Brothers in 1960. In 1970 Brasted was sold to Barratt and Robinson. This firm closed down by 1984.⁷⁶⁸

Carlton Pianos

Pre-war production: Maker of wholesale pianos.

Piano production in the war years: Carlton Pianos had a licence (D.3/51) for the production of ten pianos for N.A.A.F.I., which was valid until 31 October 1942. The

⁷⁶³ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

⁷⁶⁴ J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁷⁶⁵ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

⁷⁶⁶ “Charles H. Challen and Son,” Grace’s Guide to British Industrial Heritage, accessed 21 November 2016, http://www.gracesguide.co.uk/Charles_H_Challen_and_Son.

⁷⁶⁷ Laurence, *Five London Piano Makers*, 45.

⁷⁶⁸ *Ibid*, 46-47.

Board of Trade had no further correspondence from the firm and it was reported that the Government was not sure if the instruments were ever supplied.⁷⁶⁹

Concentration: The company may either have been previously purchased by Ferry & Foster Ltd. or concentrated under the firm with the following makers: C. & J. Eungblut, Burling & Mansfield, F.W. Emmerson Ltd., and C. Burlman & Co.⁷⁷⁰

War production: none.

Exhibitor at the 1947 British Industries Fair: No

Post-war: At some point, Carlton pianos was purchased by Temple Pianos, which manufactured Carlton pianos in the post-war years. Temple Pianos became Renn Pianos in 1958. The company closed in 1960.⁷⁷¹

Chappell Piano Company, Ltd.

Pre-war production: Chappell was founded in 1811⁷⁷² by Samuel Chappell, Francis Tatton Latour, and John Baptist Cramer as a music publishing company and instrument retailer. Initially the firm did not make its own instruments but sold instruments selected by Cramer and Latour and marketed to the nobility and gentry. In 1840 Chappell started producing their own pianos and opened a factory on Phoenix Street, Soho. The pianos became popular and profitable and the firm moved to a new factory at Chalk Farm.⁷⁷³ The company made high-end grand pianos and along with Broadwood provided instruments for concert stages.⁷⁷⁴ In 1901 Chappell Piano Co. Ltd. was incorporated as a separate company from the music publishing business and in 1922 production for grands and uprights reached 100 instruments per week. In 1929

⁷⁶⁹ E.A. Fisher, "Piano Manufacturers," 18 August 1943. BT 64/1783. National Archives.

⁷⁷⁰ Ferry & Foster Ltd. is advertised as being the proprietors of these companies on an undated record sleeve thought to be from the war-time period. Bill Kibby, "Piano Names and Aliases," Piano History Info, accessed 21 November 2016, <http://www.pianohistory.info/names.html>.

⁷⁷¹ Bob Pierce, *Pierce Piano Atlas*, 8th edition, (Long Beach, California: published by author, 1982), 244.

⁷⁷² There is little consistency over the beginning of this company with some articles stating 1810, 1811, and 1812 as the founding date. Laurence references a trade publication commemorating the sesquicentenary of the company published in 1961 so the date 1811 is used in the thesis. Laurence, *More London Makers*, 2.

⁷⁷³ Barrie Heaton, "A History of Chappell Pianos of Bond Street, London," UK Piano Page, accessed on 21 November 2016, <http://www.piano-tuners.org/history/chappell/>.

⁷⁷⁴ Laurence, *More London Piano Makers*, 2.

Chappell acquired Allison Pianos and Collard & Collard; in 1938 they acquired John Strohmenger & Sons. During this time half of Chappell's production was for export.⁷⁷⁵

Piano production in the war years: Chappell was granted a provisional nucleus certificate on 21 August 1941. By 16 September 1941, the company reported that it was fully engaged in export trade.⁷⁷⁶

As of February 1942 the company had 30 people engaged in making pianos. The firm had been given permission to manufacture 40 pianos a month until the end of November 1942, after which time an application for an extension to complete partially finished pianos was due to be made.⁷⁷⁷ The licence for piano production was extended until 30 June 1943, but only to complete unfinished pianos.⁷⁷⁸ The company's nucleus contract and nucleus certificate were withdrawn on 30 June 1943.⁷⁷⁹ Chappell used up most of its reserve stocks while completing its contracts in 1943.⁷⁸⁰

Concentration: Chappell was granted a provisional nucleus certificate on 21 August 1941. It concentrated with J. B. Cramer & Co. Ltd., and John Spencer & Co., both of which closed their factories as a stipulation of concentration.⁷⁸¹

War production: After 30 June 1943 the company was working for the Admiralty, the Ministry of Supply, the Ministry of Aircraft Productions, and the Ministry of Works and Planning.⁷⁸²

Exhibitor at the 1947 British Industries Fair: Yes. Listed as "The Range of Chappell Pianos shown includes the "Mignon" 6ft (1.8m) Grand and the "Chaplette".

⁷⁷⁵ Barrie Heaton, "A History of Chappell Pianos of Bond Street, London."

⁷⁷⁶ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁷⁷⁷ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1942. BT 64/1783. National Archives.

⁷⁷⁸ J.E. Meldrum, Board of Trade to Mr. Clayton Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁷⁷⁹ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁷⁸⁰ Chappell Piano Co., Ltd., to Pianoforte Industries and Export Group, "Export of Grand Pianos to Spain," letter, 7 January 1944. BT 64/1783. National Archives.

⁷⁸¹ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁷⁸² J.E. Meldrum, Board of Trade, to Mr. Clayton Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

There will also be models of Our Associated Companies Collard and Collard, Allison and Strohmenger.”⁷⁸³

Post-war: Like most piano companies, Chappell was slow to recover from the war. The post-war production estimates based on serial numbers show that Chappell made around 200 pianos a year in 1948, 1949, and 1950.⁷⁸⁴ According to Laurence, the firm produced about eight instruments a week in 1948, but this declined to around six instruments per week throughout the 1950s.⁷⁸⁵ From 1951 to 1977 production numbers ranged from four instruments a week to 15 instruments a week. By 1963 the company was running on a skeleton workforce; a large portion of its factory sat idle and many of its employees were over the age of 60 years. In 1970 Chappell was purchased by Phillips Electrical, which closed the ailing piano factory.⁷⁸⁶ The company was purchased by Kemble Piano Company in 1978, who continued to make pianos with the Chappell name until April 2000.⁷⁸⁷

J. B. Cramer and Company

Pre-war production: J. B. Cramer and Company was established 1824 and was incorporated as a limited company in 1897. The company manufactured pianos and was a music publisher. By 1914 the company employed 300 people.⁷⁸⁸

Piano production in the war years: In 1939 the company reported an approximate total turnover of £17,512. This amount declined in 1940 and was reported as £9,461; in 1941 the company reported its turnover as £5,230. The firm was exporting instruments to Australia, South Africa, British West Indies, and South America.⁷⁸⁹

⁷⁸³ “Chappell Piano Co.,” Grace’s Guide to the British Industrial History, accessed 21 November 2016, http://www.gracesguide.co.uk/Chappell_Piano_Co.

⁷⁸⁴ Barrie Heaton, “A History of Chappell Pianos of Bond Street, London,” UK Piano Page, accessed 21 November 2016, <http://www.piano-tuners.org/history/chappell/>.

⁷⁸⁵ Laurence, *More London Piano Makers*, 17.

⁷⁸⁶ Ibid, 18.

⁷⁸⁷ Barrie Heaton, “A History of Chappell Pianos of Bond Street, London.”

⁷⁸⁸ “J. B. Cramer and Co.,” Grace’s Guide to the British Industrial History, accessed 21 November 2016, http://www.gracesguide.co.uk/J._B._Cramer_and_Co#cite_note-1.

⁷⁸⁹ “Factual Survey of the Piano Industry Appendix B.,” March 1942. BT 64/1786. National Archives.

In February 1942, Cramer had 21 people employed in piano making.⁷⁹⁰ The company's licence (D.3/77) to produce pianos was valid until 30 June 1943 and it was then extended until 31 August 1943. This licence covered 52 pianos, all of which were supplied to the N.A.A.F.I.⁷⁹¹ The pianos were all manufactured at the Chappell factory after the Concentration of Industries Scheme went into effect.⁷⁹²

Concentration: The factory closed down under the Concentration of Industries scheme. A nucleus certificate was issued to Chappell Piano Co. Ltd. on 21 May 1941.⁷⁹³

War Production: Cramer completed war work for the Admiralty.⁷⁹⁴

Exhibitor at the 1947 British Industries Fair: No.

Post-war: During the post-war years, Cramer averaged a production of fewer than 200 pianos a year and production stopped in the early 1960s.⁷⁹⁵ In 1964, the company was taken over by Kemble & Co., who used the name J. B. Cramer and Co. for a limited time.

W. Danemann & Co.

Pre-war production: Founded by William Danemann in 1893 as a manufacture of "trade" (stencil) pianos.⁷⁹⁶ The firm began manufacturing Pohlmann and Son pianos in 1934.⁷⁹⁷ Prior to the war the company produced mainly upright and miniature pianos and only small grand pianos measuring 4' 3".⁷⁹⁸

⁷⁹⁰ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1942. BT 64/1783. National Archives.

⁷⁹¹ E.A. Fisher, "Piano Manufacturers," 18 August 1943. BT 64/1783. National Archives.

⁷⁹² J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁷⁹³ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁷⁹⁴ J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁷⁹⁵ Pierce, 74.

⁷⁹⁶ Laurence, *Five London Piano Makers*, 74.

⁷⁹⁷ Ibid, 76.

⁷⁹⁸ Ibid, 79.

Piano production in the war years: Danemann closed down the manufacture of pianos on 27 February 1943.⁷⁹⁹ The company employed a separate labour force of five men for maintenance and repair work after it closed manufacture.⁸⁰⁰ Most likely the firm maintained a healthy amount of its stock, because when it applied to the Board of Trade in November 1943 for the release of materials to make experimental instruments, including three grand pianos and three upright overstrung pianos, it only requested 6 cwt iron and 18 sq. ft. of celluloid.⁸⁰¹

Concentration: Concentrated with Brasted Brothers.⁸⁰²

War production: By April 1943 the firm was wholly engaged in Government contracts and completed work for the Admiralty and the Ministry of Supply.⁸⁰³

Exhibitor at the 1947 British Industries Fair: Yes. Listed exhibitor: “Manufacturers of Pianos, Grand and Upright, in various woods and modern designs.”⁸⁰⁴

Post-war: After the Second World War the company began making instruments under its own name⁸⁰⁵ and changed from producing stencil pianos to more upscale instruments, including grand pianos.⁸⁰⁶ The company was best known for its upright school models, made of solid oak to withstand abuse in a school environment.⁸⁰⁷ In the 1970s the company was having difficulty competing with Asian imports and was eventually sold to Broadwood and Sons in 1982. The Danemann factory was closed in July 1984.⁸⁰⁸

⁷⁹⁹ J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁸⁰⁰ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

⁸⁰¹ S. A. Hurron to E. A. Fisher, “Post War Research,” memorandum, 4 November 1943. BT 64/1783. National Archives.

⁸⁰² Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

⁸⁰³ J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁸⁰⁴ “W. Danemann and Co.” Grace’s Guide to British Industrial History, accessed 22 November 2016, http://www.gracesguide.co.uk/W._Danemann_and_Co.

⁸⁰⁵ Laurence, *Five London Piano Makers*, 74.

⁸⁰⁶ *Ibid.*, 79.

⁸⁰⁷ *Ibid.*, 85.

⁸⁰⁸ *Ibid.*, 90-91.

Herrburger & Brooks Ltd.

Pre-war production: Established by Henry Brooks in 1810. Maker of piano actions, hammer heads, and keyboards.

Piano production in the war years: The company employed just two people (aged 50-60) in piano work as of February 1943.⁸⁰⁹ The firm's nucleus certificate was withdrawn by August 1943 and its labour (not involved in war production) was transferred to the Directorate of Woodworking.⁸¹⁰

Concentration: This firm was not concentrated.

War production: The company had contracts for the Admiralty and the Ministry of Aircraft Production.⁸¹¹

Exhibitor at the 1947 British Industries Fair: Yes. Listed as "Manufacturers of Pianoforte Actions, Keys and Hammers for Grand and Upright Pianos and Player Pianos. Organ Keys. "Schwander" and "Herrburger" Actions. "Shenstone" and "Ivorette" Keys. Ivory Cutters. Plastic Moulders."⁸¹²

Post-war: By 1953 Herrburger Brooks became the largest action maker company in Europe. The company was taken over by Kimball International Inc. of the U.S.A. in 1965 and was sold to Harmony Pianos of Hong Kong in 1996. In 1998 the company went into administrative receivership.⁸¹³

Alfred Knight, Ltd.

Pre-war production: Founded by Alfred E. Knight in 1936. Knight had previously worked at the piano firm Cremona Ltd. before founding Booker & Knight in 1936. Knight's prior experience and financial backing from the Barnes Piano Group, which owned a number of retail stores in England, aided the new company as it established

⁸⁰⁹ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

⁸¹⁰ E. A. Fisher to B. A. Pattison, memorandum, 23 August 1942. BT 64/1783. National Archives.

⁸¹¹ J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service, letter, 14 April 1943. BT 64/1783. National Archives.

⁸¹² "Herrburger, Brooks, Ltd." Grace's Guide to British Industrial History, accessed 22 November 2016, http://www.gracesguide.co.uk/Herrburger,_Brooks.

⁸¹³ Ibid.

itself in less-than-ideal financial times. The new piano company produced around 150 pianos in 1936, which then increased to almost 600 pianos in 1937.⁸¹⁴ In 1939 the firm was producing 1,000 instruments per year.⁸¹⁵ The company produced upright pianos which were known for their even sound quality throughout their compass.

Piano production in the war years: In 1939 Knight reported a turnover of £26,000 worth of pianos for the period running June through December. Of this, £2,000 worth of pianos were for export and sent mainly to South America. In 1940 the company reported a turnover of £17,100 worth of pianos. Exports accounted for £2,100 of this amount.

Knight was contracted to make pianos for the N.A.A.F.I. and the British and American Red Cross.⁸¹⁶ In June 1943 the firm had a contract to make 54 pianos for the N.A.A.F.I.⁸¹⁷ The company was also given special permission to build an experimental piano which would be exported to tropical climates.⁸¹⁸ It was reported that nine pianos made by Alfred Knight were sent to Normandy after the D-Day invasion in 1944.⁸¹⁹

The Knight N.A.A.F.I. piano was designed to be a sturdy instrument that could withstand extended use by soldiers. To increase its strength, the piano was made with an iron frame that extended across the entire back of the piano and the casework was made from solid heavy oak. To prevent damage from overeager, or potentially inebriated players, the piano had some interesting features. The top of the piano was at an angle so that glasses could not be set on it, a metal plate was placed behind the pedals to prevent players from kicking in the bottom, ashtrays were built into the piano beside the keys, and the key covers were made of flame-resistant material to prevent

⁸¹⁴ Laurence, *More London Piano Makers*, 82-89.

⁸¹⁵ "Alfred Knight," Grace's Guide to British Industrial History, accessed 20 November 2016, http://www.gracesguide.co.uk/Alfred_Knight.

⁸¹⁶ Laurence, *More London Piano Makers*, 93.

⁸¹⁷ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸¹⁸ E. A. Fischer to Mr Richards, letter, 15 November 1943. BT 64/1783. National Archives.

⁸¹⁹ Wainwright, *The Piano Makers*, 161.

cigarette burns (and to prevent the whole instrument from going up in flames because of a misplaced cigarette⁸²⁰).⁸²¹



Figure 20. Still from a promotional video of the Knight N.A.A.F.I. piano showing Alfred night placing a glass on the angled top of the piano. 1951. Accessed 28 January 2017. <https://www.youtube.com/watch?v=kYnnSPNKYIA>.

⁸²⁰ At the time, synthetic materials used in key covers were made of celluloid, which was highly flammable. They were marketed under the names ivoroid or ivorette.

⁸²¹ Laurence, *More London Piano Makers*, 93.



Figure 21. Still from a promotional video of the Knight N.A.A.F.I. piano showing Alfred Knight with cigarette on the ashtray of the piano. 1951. Accessed 28 January 2017. <https://www.youtube.com/watch?v=kYnnSPNKYIA>.

Concentration: Knight was issued a nucleus certificate on 16 September 1941. This firm combined with Alfred Taylor & Son, Ltd. and Leswein Piano, Ltd, which was closed down.⁸²² The company's nucleus certificate was withdrawn by the Board of Trade on 30 June 1943.⁸²³

War production: Knight's war-time contracts were for pianos. It is unknown if the company had any other war production contracts.

Exhibitor at the 1947 British Industries Fair: Yes. Listed as "Manufacturers of Modern Small Pianos."⁸²⁴

⁸²² "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁸²³ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture," memorandum, June 1943. BT 64/1783. National Archives.

⁸²⁴ "Alfred Knight," Grace's Guide to British Industrial History, accessed 20 November 2016, http://www.gracesguide.co.uk/Alfred_Knight.

Post-war: In 1950 Knight produced around 800 pianos with 90% of the pianos exported.⁸²⁵ The company was able to create an extensive export market by offering piano “kits” containing finished and semi-finished parts, including the iron frame, soundboard, unassembled case, action, piano wires, etc., which were shipped to factories in other countries to be assembled and finished. These pianos were stencil instruments and were labelled with the foreign factory’s name on the outside, but the iron frame was cast containing the Knight logo.⁸²⁶

An additional market Knight developed in the post-war era was that of the classroom. Knight modified the sturdy N.A.A.F.I. piano to be suitable for the schoolroom and the resulting piano came to be known as the “school” model. The N.A.A.F.I. pianos were known for their ability to withstand the rigors of soldiers’ playing, and the modified “school” piano was also able to take the stress of classroom use.⁸²⁷

In the 1950s, Knight moved to a new factory at Loughton in Essex. The move to a more modern and larger factory enabled the company to expand its production and between 1956 and 1959 the company produced over 2,000 pianos a year. From 1961 to 1979 the company averaged an annual production of 1,780 instruments. Throughout this time Knight exported 80% of their production.⁸²⁸

Like other piano firms, Knight had difficulty facing competition from cheaper, Asian-made pianos. From 1980 onwards, production numbers declined and on 31 October 1990 the factory closed.⁸²⁹ The company was sold to Bentley Piano Company Ltd. in 1990 and Knight pianos were made in the Bentley factory until 1993 when Bentley, Broadwood and Knight were acquired by Whelpdale, Maxwell and Codd Ltd. In 2000 this firm merged with Woodchester Pianos, Stroud to form The British Piano Manufacturing Company, Ltd., which was liquidated in 2003.⁸³⁰ Today instruments bearing the Knight name are imported from China.⁸³¹

⁸²⁵ The remaining 10% were sold to schools and churches which were exempt from the ban on purchasing pianos as well as from having to pay the Purchase Tax.

⁸²⁶ Laurence, *More London Piano Makers*, 95.

⁸²⁷ *Ibid*, 93.

⁸²⁸ *Ibid*, 97.

⁸²⁹ *Ibid*, 101.

⁸³⁰ “A History of the Piano, 1157-2015” UK Piano Page, accessed 20 November 2016, http://www.piano-tuners.org/history/history_1.html.

⁸³¹ Laurence, 101.

Lambert of London

Pre-war production: Established in 1881. Manufacturers of upright pianos.

Piano production in the war years: Lambert was issued a licence (D. 3/83) for the production of 200 pianos for the N.A.A.F.I to be completed by 31 August 1943.⁸³² In April 1943 the company reported that it was uncertain if it would be able to fulfil the contract as their allocation of iron was about to run out.⁸³³

Concentration: Unknown. This company is not included in any of the reports of piano company concentration in the Board of Trade Papers.

War production: Unknown.

Exhibitor at the 1947 British Industries Fair: No.

Post-war: According to the *Pierce Piano Atlas* Lambert Pianos produced 400 pianos in 1954, 1080 pianos in 1955, and 370 pianos in 1956. There are no more production numbers recorded after 1956 and most likely the firm was closed down.⁸³⁴

Leswein Pianos, Ltd.

Pre-war production: Established in 1920.

Piano production in the war years: On 3 February 1940 a fire totally destroyed the Leswein factory. The company stated that they would restart production at a new factory.⁸³⁵ In 1941 the company obtained full manufacturing and selling rights of Kessel Pianos.⁸³⁶

The firm was granted a licence (D. 3/85) for the production of 25 pianos for the N.A.A.F.I to be supplied by 31 July 1943. Only ten instruments were supplied and the

⁸³² E.A. Fisher, "Piano Manufacturers" 18 August 1943. BT 64/1783. National Archives.

⁸³³ J.E. Meldrum, "Note on the position with reference to supplies of pianos to N.A.A.F.I.," memorandum, 16 April 1943. BT 64/1783. National Archives.

⁸³⁴ Pierce, 175.

⁸³⁵ "A Blaze at Leswein's," *Music Trades Review*, February 1940, 25.

⁸³⁶ "Leswein to Manufacture Kessel Pianos," *Music Trades Review*, June 1941, 91.

company requested an extension to finish the contract.⁸³⁷ In September 1943 Leswein was granted an extension on their licence to complete 14 pianos but it was required that the pianos must be completed by any labour that would be left to them after the Ministry of Labour and National Service investigated their workforce and transferred workers to war production factories.⁸³⁸

Concentration: Concentrated with Alfred Taylor & Son and Alfred Knight, which became the nucleus firm. Leswein was closed down for the rest of the war.⁸³⁹

War production: Unknown. As this firm was concentrated it is highly unlikely that it was granted any war production contracts.

Exhibitor at the 1947 British Industries Fair: Yes. Listed as: “Manufacturers of Pianofortes, Pianoforte Stools.”

Post-war: The company produced around 100 instruments per year in 1958 and 1959 and closed in 1960.⁸⁴⁰

Sir Herbert Marshall & Sons, Ltd.

Pre-war production: Established in 1907. Maker of Marshall & Rose pianos. This firm was known for building high quality, elaborate pianos.

Piano production in the war years: The company’s last licence for piano production was for nine pianos to be sold to the N.A.A.F.I., which expired on 27 February 1943.⁸⁴¹

Concentration: Marshall concentrated under Whelpdale, Maxwell & Codd, which was issued with a nucleus certificate on 19 June 1941. Marshall & Sons, along with John Broadwood & Sons, Ltd., and Vincent Manufacturing Co., Ltd, were closed down.⁸⁴²

⁸³⁷ E.A. Fisher, “Piano Manufacturers,” memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸³⁸ E. A. Fisher to E. C. P. Lascelles, “Pianoforte Manufacturers,” letter, September 1943. BT 64/1783. National Archives.

⁸³⁹ “Factual Survey of the Piano Industry Appendix B.,” March 1942. BT 64/1786. National Archives.

⁸⁴⁰ Pierce, 181.

⁸⁴¹ E.A. Fisher, “Piano Manufacturers,” memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁴² “Factual Survey of the Piano Industry Appendix B.,” March 1942. BT 64/1786. National Archives.

War production: Ernest Marshall (son of Herbert Marshall) recounted that 24 hours after he filled out forms and submitted his details of his factory space and machinery for war work the local Borough Council called round and requisitioned his factory for storing furniture from war-damaged houses. All of his machinery was “just pushed aside.”⁸⁴³

Exhibitor at the 1947 British Industries Fair: Yes: Listed as “Manufacturers of the ‘Marshall and Rose’ Upright and Grand Pianofortes of Various modern designs in any available Woods and, if desired, of special construction throughout for use in Tropical Climates.”⁸⁴⁴ Although exhibited as its own company, these pianos were made by Whelpdale, Maxwell & Codd.

Post-war: The company decided not to restart its business after the war and instead sold to Whelpdale, Maxwell & Codd. Marshall and Rose pianos had a good reputation and soon this formed 20% of Whelpdale’s annual output.⁸⁴⁵

Monington & Weston, Ltd.

Pre-war production: Established in 1858. This firm was predominantly makers of baby grand pianos and small uprights.

Piano production in the war years: The company reported an export turnover of £6,243 in 1939, £5,171 in 1940, and £5,603 in 1941 with an additional £2,076 worth of orders on hand for that year. It had agents in South Africa and Australia and also exported to New Zealand, Ceylon, and British West Indies. Monington & Weston made a type of piano that had a double metal frame which they reported as being “particularly suited for the Tropics.”⁸⁴⁶

The company was issued a licence (D. 3/76) for the production of 29 pianos to be supplied by 30 June 1943. The firm received an extension on the licence until 31 August 1943 because they were only able to supply 16 pianos by July. The extension

⁸⁴³ Eugene Sotheran, “Piano Trade Meeting,” *Music Trades Review*, January 1941, 1.

⁸⁴⁴ “Sir Herbert Marshall & Sons,” *Grace’s Guide to British Industrial History*, accessed 22 November 2016, http://www.gracesguide.co.uk/Sir_Herbert_Marshall_and_Sons.

⁸⁴⁵ Laurence, *Five London Piano Makers*, 102.

⁸⁴⁶ “Factual Survey of the Piano Industry Appendix B.,” March 1942. BT 64/1786. National Archives.

covered the remaining 13 pianos. E. A. Fisher from the Board of Trade thought it was unlikely the company would be able to finish the 13 pianos by August⁸⁴⁷ and the firm's nucleus certificate was withdrawn on 31 August 1943.⁸⁴⁸

Monington & Weston applied to the Board of Trade on 4 November 1943 for the release of materials in order to manufacture six experimental pianos using the firm's patent double iron frames. The materials requested were: 15 cwt iron, 37 lbs. copper, 30 cu. ft. softwood for soundboards.⁸⁴⁹

Monington & Weston agreed to complete four 4'6" grand pianofortes by the end of June 1944 for export to Spain if they could obtain the iron frames.⁸⁵⁰

Concentration: A nucleus certificate was issued to the company on 19 November 1941. The company concentrated with Werwick Piano Company, which was shut down.⁸⁵¹

War production: Unknown.

Exhibitor at the 1947 British Industries Fair: Yes. Listed as "Manufacturers of Pianos, Uprights, Baby Grands, Boudoir Grands, Miniature Pianos, Music Stools. Pianos can be specially made for Tropical Climates. School Pianos."⁸⁵²

Post-war: The company ceased piano production in 1976 and instead built piano keyboards after taking over the J. Pine company. The company closed in 1986. The name was sold to John Morley of Robert Morley & Co. in 1996. Morley re-established the name and made Monington & Weston pianos for U.K. sales. The pianos are now made in China and finished in the U.K.⁸⁵³

⁸⁴⁷ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁴⁸ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service. "Piano Manufacture," letter, June 1943. BT 64/1783. National Archives.

⁸⁴⁹ S. A. Hurron to E. A. Fisher, "Post War Research," letter, 4 November 1943. BT 64/1783. National Archives.

⁸⁵⁰ Monington & Weston to E. A. Fisher, "Export of Grand Pianos to Spain," letter, 8 January 1944. BT 64/1783. National Archives.

⁸⁵¹ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁸⁵² "Monington and Weston" Grace's Guide to British Industrial History, accessed 22 November 2016, http://www.gracesguide.co.uk/Monington_and_Weston.

⁸⁵³ "History of the Company," Robert Morley & Company, Ltd., accessed 22 November 2016, <http://www.morleypianos.com/p/about-us/history-of-the-company>.

John Spencer & Co.

Pre-war production: Established in 1883. Produced mainly upright pianos and a few baby grand pianos.

Piano production in the war years: The company was issued a licence (D.3/62) to manufacture 32 pianos for the N.A.A.F.I. which was valid until 27 February 1943.⁸⁵⁴

Concentration: John Spencer & Co. concentrated under Chappell along with John S. Murdock & Co. Ltd. and J. B. Cramer & Co. Establishments closing down were J. B. Cramer & Co. Ltd. and John Spencer & Co.⁸⁵⁵

War production: None

Exhibitor at the 1947 British Industries Fair: No.

Post-war: This company did not reopen after the war. The last pianos made were for the N.A.A.F.I in 1943.

Stroud Piano Co.

Pre-war production: Originally founded as the Bentley Piano Company in 1906, the firm moved to the Cotswolds, Woodchester Mills near Stroud in 1911 and became the Stroud Piano Co., Ltd., continuing to sell pianos using the Bentley name. In 1930 Stroud was a major producer of baby grand pianos and had an annual output of 3,000 pianos.⁸⁵⁶ Along with the Bentley trade name, this firm manufactured Hampton Pianos, Stroud Pianos, and Kingscourt Pianos.⁸⁵⁷

Piano production in the war years: Stroud received extensive orders from the Government for pianos. In August and September 1941, the Government ordered £1,046 worth of pianos for export and £6,547 of pianos to be supplied to military bases

⁸⁵⁴ E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁵⁵ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁸⁵⁶ "Stroud Piano Co.," Grace's Guide to British Industrial History, accessed 22 November 2016, http://www.gracesguide.co.uk/Stroud_Piano_Co.

⁸⁵⁷ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

on U.K. soil. During this time 18 men were engaged in piano production of the 43 total employees.⁸⁵⁸

From March to May 1942, Stroud produced £9,743 worth of pianos for the Government. Most likely these pianos were ordered for the N.A.A.F.I. or another Government agency. At this time 29 out of the 35 employees of the company were engaged in “normal” production, i.e. piano production.⁸⁵⁹

Stroud’s last licence for piano production (D. 3/66) was for 250 pianos to be completed by 27 February 1943. After this time the firm was engaged completely in war production.⁸⁶⁰

Concentration: Stroud did not concentrate during the war.

War production: In April 1941, the company had a Government order for £1,313 worth of products other than pianos. In May 1941 the order amounted to £443 and in June of that year it totalled £2,659 worth of products other than pianos.⁸⁶¹ By February 1943 the company was fully engaged in Government work for the Ministry of Aircraft Production.⁸⁶² The company made aircraft components, notably for the Gloster Meteor.⁸⁶³

Exhibitor at the 1947 British Industries Fair: Yes. Listed as “Manufacturers of "Bentley" Pianofortes of Modern Design small in size and of attractive appearance. Bentley "Studio-Minor" and "Bungalow" Models in Walnut, Mahogany, Oak. Bentley 4ft. 6in. (1.37m) Horizontal Grands in Walnut and Mahogany.”⁸⁶⁴

Post-war: Stroud was a successful piano company in the post-war era. During the years of austerity, Stroud exported many pianos and created a world-wide distribution

⁸⁵⁸ “Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order,” January 1942. BT 64/1786. National Archives.

⁸⁵⁹ “Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order,” July 1942. BT 64/1786. National Archives.

⁸⁶⁰ E.A. Fisher, “Piano Manufacturers,” memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁶¹ “Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order,” June 1941. BT 64/1786. National Archives.

⁸⁶² J.E. Meldrum, Board of Trade, to Mr. Clayton, Ministry of Labour and National Service,” memorandum, 14 April 1943. BT 64/1783. National Archives.

⁸⁶³ Grace’s Guide to British Industrial History, accessed 22 November 2016, http://www.gracesguide.co.uk/Stroud_Piano_Co.

⁸⁶⁴ Ibid.

market. The firm started to decline in the 1980s with mounting competition from Asia, as well as suffering a significant fire at its factory. In 1993 the firm was acquired by Whelpdale, Maxwell & Codd. In 2001 it became part of the British Piano Manufacturing Company Ltd., which went into liquidation in 2003.⁸⁶⁵

Supertone Pianos

Pre-war production: Manufacturers of wholesale pianos.

War-years piano production: Unknown at this time.

Concentration: This company did not concentrate.

War production: Supertone received extensive war production contracts, many of which were most likely for furniture production. The reported value of government orders for products other than pianos included the following:

April 1941:	£3,192
May 1941:	£5,300
June 1941:	£13,966
August & September 1941:	£13,967
March to May 1942	£28,472.

The company received an additional £3,405 worth of orders for products other than pianos from non-government related contractors in March to May 1942.⁸⁶⁶

In April 1941 the company had 187 male employees and eight female employees. In June 1941 the company had 182 male employees and six female employees working on all products. Of these employees only five male employees were working full-time on normal piano-related work, the rest of the work force was working over-time on

⁸⁶⁵ Ibid.

⁸⁶⁶ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order," April 1941, May 1941, June 1941, July 1942, August & September 1941, March-May 1942. BT 64/1786. National Archives.

Government contract production.⁸⁶⁷ By October 1941 the number of employees totalled 165 males and 31 females, of these three men were engaged in piano work. In May 1942 Supertone employed 270 people (179 men and 91 women) with only three of these employees working on piano related work.⁸⁶⁸

Exhibitor at the 1947 British Industries Fair: No.

Post-war: Unknown at this time.

Alfred Taylor & Son, Ltd.

Pre-war production: Established in 1890.

Piano production in the war years: Taylor reported having an export turnover of £610 in the year 1939-1940 and only £62 worth of orders on hand in September 1940.⁸⁶⁹ The company was issued a licence (D. 3/82) for the production of six pianos to be completed by 30 June 1943. This licence was extended until 13 August when the pianos were sold to the N.A.A.F.I.⁸⁷⁰ The company's nucleus certificate was withdrawn by the Board of Trade in June 1943.⁸⁷¹ Alfred Taylor & Son closed its factory in November 1943.⁸⁷²

Concentration: A nucleus certificate was issued to this firm in conjunction with Alfred Knight Ltd on 16 September 1941. The two firms concentrated with Leswein Piano Ltd., which closed its factory.⁸⁷³

War production: None

Exhibitor at the 1947 British Industries Fair: No.

⁸⁶⁷ "Piano Industry Summary Census: Number of Employees," June 1941. BT 64/1786. National Archives.

⁸⁶⁸ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order," July 1942. BT 64/1786. National Archives.

⁸⁶⁹ "Census of Manufacturers registered under the Limitation of Supplies (Miscellaneous) Order," June 1941. BT 64/1786. National Archives.

⁸⁷⁰ E.A. Fisher. "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁷¹ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture," letter, June 1943. BT 64/1783. National Archives.

⁸⁷² "Note the Changes, Please!" *Music Trades Review*, November 1943, 3.

⁸⁷³ "Factual Survey of the Piano Industry Appendix B." March 1942. BT 64/1786. National Archives.

Post-war: The company closed in November 1943.

Triumph Auto Pianos

Pre-war production: Maker of player pianos and upright pianos.

Piano production in the war years: The company was issued a licence (D. 3/88) to produce 50 pianos for the N.A.A.F.I. to be completed by 31 July 1943. By August the firm had only supplied seven instruments and asked for an extension.⁸⁷⁴ Although the firm's nucleus certificate was withdrawn by the Board of Trade in June 1943, the company had their licence extended to 31 October because they had a special order from the N.A.A.F.I. for 200 pianos. The War Office agreed to release the necessary raw materials for the company to complete the pianos and the Ministry of Labour and National Service ceased transfer of labour from this company until 31 October 1943 so that the firm could finish their contract.⁸⁷⁵ Piano production ceased after 31 October 1943.⁸⁷⁶

The company applied to the Board of Trade for the release of materials for experimental production of six pianos in November 1943. Materials needed included 8 cwt iron, 36 lbs. copper for bass strings, 33 cu. ft. hardwood, 82.5 cu. ft. imported softwood, and 18 sq. ft. celluloid for key-coverings.⁸⁷⁷

Concentration: Triumph Auto was issued a nucleus certificate on 19 July 1941 and concentrated with A. W. Lee and the Fleet Piano Company, both of which closed their factories during the war years.⁸⁷⁸

War production: unknown

Exhibitor at the 1947 British Industries Fair: No.

⁸⁷⁴ E.A. Fisher. "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁷⁵ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service, "N.S.123274. I.M.4./549/42," memorandum, 30 June 1943. BT 64/1783. National Archives

⁸⁷⁶ E. A. Fisher to E. C. P. Lascelles "Pianoforte Manufacturers," letter, September 1943. BT 64/1783. National Archives.

⁸⁷⁷ S. A. Hurren to E. A. Fisher "Post War Research," letter, 4 November 1943. BT 64/1783. National Archives.

⁸⁷⁸ "Factual Survey of the Piano Industry. Appendix B March 1942. BT 64/1786. National Archives.

Post-war: Unknown.

Vaudeville Piano Company Limited

Pre-war production: Unknown

Piano production during the war years: By February 1943 the company employed eight men (six of whom were over 50) working full-time on piano repairs for N.A.A.F.I. and had an order to manufacture 40 pianos for this institution.⁸⁷⁹ The company was licensed (D. 10/383) to produce ten pianos for the N.A.A.F.I. by 30 June 1943.⁸⁸⁰ In September 1943, Vaudeville was granted an extension on their licence to complete two pianos for the N.A.A.F.I. Although the company was granted the extension, the pianos had to be completed by any labour that may be left to them after the Ministry of Labour and National Service investigated their workforce and transferred labour to war production factories.⁸⁸¹

Concentration: Unknown.

War production: Unknown.

Exhibitor at the 1947 British Industries Fair: No.

Post-war: Unknown.

T. M. Vincent Limited

Pre-war production: Maker of upright pianos.

Piano production during the war years: Vincent was granted a licence (D.3/54) to produce 20 pianos for the N.A.A.F.I. by 31 December 1942. The firm was given an

⁸⁷⁹ Ministry of Labour and National Service to Mr. Postgate, Board of Trade, letter, 24 February 1943. BT 64/1783. National Archives.

⁸⁸⁰ E.A. Fisher, "Piano Manufacturers," 18 August 1943. BT 64/1783. National Archives.

⁸⁸¹ E. A. Fisher to E. C. P. Lascelles, "Pianoforte Manufacturers," memorandum, September 1943. BT 64/1783. National Archives.

additional licence (D.3/86) for the production of three pianos to be supplied by 31 July 1943, after which the company stopped production.⁸⁸²

Concentration: Concentrated under Whelpdale, Maxwell & Codd (who were issued a nuclear status) along with John Broadwood & Sons Ltd., and Sir Herbert Marshall & Sons, Ltd. Broadwood, Marshall, and Vincent closed their factories during the war.⁸⁸³

War production: None.

Exhibitor at the 1947 British Industries Fair: No.

Post-war: Unknown.

Whelpdale, Maxwell & Codd

Pre-war production: Originally founded in 1876 to sell imported Blüthner pianos. The company began manufacturing their own pianos in 1938 after the Squire and Longson factory was destroyed in a fire and Whelpdale, Maxwell and Codd bought the company and hired the staff to produce pianos under the brand of Welmar.⁸⁸⁴ Along with Broadwood and Chappell, Welmar pianos were among the most expensive British pianos on the market.⁸⁸⁵

Piano production during the war years: In 1942 the company reported these sales figures to the Board of Trade:

⁸⁸² E.A. Fisher, "Piano Manufacturers," memorandum, 18 August 1943. BT 64/1783. National Archives.

⁸⁸³ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁸⁸⁴ "Whelpdale, Maxwell and Codd," Grace's Guide to British Industrial History, accessed 23 November 2016, http://www.gracesguide.co.uk/Whelpdale,_Maxwell_and_Codd.

⁸⁸⁵ Laurence, *Five London Piano Makers*, 95.

Period of Report	Total Turnover	Export Turnover	Orders on hand
1939 (June/Dec)	£26,254	£6,018	
1940 (June/Dec)	£18,223	£3,378	
1941 (Jan/May)	£11,519	£4,964	
June 1941			£5,690

Table 20. Sales figures reported to the Board of Trade from the "Factual Survey of the Piano Industry, Appendix B, March 1942. BT 64/1786. National Archives, Kew.

The company had an agent in Argentina and exported to Australia, New Zealand, and South Africa.

Whelpdale, Maxwell & Codd was issued a licence (D.3/63) to build six pianos for the N.A.A.F.I to be supplied by 27 February 1943.⁸⁸⁶ The company's nucleus certificate was withdrawn by the Board of Trade in June 1943.⁸⁸⁷

The company applied to the Board of Trade for release of materials in November 1943 to manufacture experimental post-war pianos. This included one large grand piano and one overstrung model upright. The materials requested were 10 cwt iron, 18.15 cu. ft. imported hardwood, 21.10 cu. ft. imported softwood, 5.00 cu. ft. softwood for soundboards (imported).⁸⁸⁸

Concentration: The firm was issued a nucleus certificate on 19 June 1941 and concentrated with John Broadwood & Sons Ltd., Sir Herbert Marshall & Sons, Ltd., and Vincent Manufacturing Co. Ltd – all three of which were closed down.⁸⁸⁹

War production: According to Alastair Laurence, Whelpdale, Maxwell and Codd were allowed to continue to manufacture a limited number of instruments for the Government throughout the war years.⁸⁹⁰ By 1947 the company reported that the factory had completed 72 Broadwood upright instruments and one Broadwood baby

⁸⁸⁶ E.A. Fisher. "Piano Manufacturers," 18 August 1943. BT 64/1783. National Archives.

⁸⁸⁷ E. A. Fischer, Board of Trade, to E.C.P. Lascelles, Ministry of Labour and National Service, "Piano Manufacture," letter, June 1943. BT 64/1783. National Archives.

⁸⁸⁸ S. A. Hurren to E. A. Fisher, "Post War Research," letter, 4 November 1943. BT 64/1783. National Archives.

⁸⁸⁹ "Factual Survey of the Piano Industry Appendix B.," March 1942. BT 64/1786. National Archives.

⁸⁹⁰ Laurence, *Five London Piano Makers*, 101.

grand over the course of seven years. The factory had a further 11 grands and 38 uprights in the course of construction.⁸⁹¹

Exhibitor at the 1947 British Industries Fair: Yes. Listed as “Manufacturers of the ‘Welmar’ Upright and Grand Pianofortes of various modern designs, in any available woods and if desired, of special construction throughout, for use in Tropical Climates.”⁸⁹²

Post-war: Immediately after the war Whelpdale continued to manufacture Broadwood pianos until that company was able to return to its factory in November 1946.⁸⁹³ Marshall and Sons Ltd. decided not to re-start production and sold the business to Whelpdale, after which Marshall and Rose pianos formed 20% of Whelpdale’s annual output.⁸⁹⁴ After 1945 the company offered for the export market two sizes of grand pianos: a baby grand of 4’ 9” and a full-sized grand of 9’ (of which very few were produced). These pianos were branded both as Welmar pianos and Marshall and Rose pianos. Three main sizes of upright instruments were produced from 1945: models A, B, and C.⁸⁹⁵

Whelpdale, Maxwell and Codd was successful in the post-war years. The company was able to recover from the war and maintain strong production numbers. The company acquired the Bentley Piano Company in 1993. At this point Whelpdale owned the names of Welmar, Bentley, Grover and Grover, Knight, Rogers Steinberg, Hopkinson, and Zender.⁸⁹⁶ In 2000 this firm merged with Woodchester Pianos, Stroud to form The British Piano Manufacturing Company, Ltd. This firm was liquidated in 2003.⁸⁹⁷

⁸⁹¹ Ibid, 102.

⁸⁹² “1947 British Industries Fair: Exhibitors List,” *Grace’s Guide to British Industrial History*.

⁸⁹³ “Minutes of the Board Meeting Held on Thursday 10th January 1946,” *Board of Directors Minute Books July 1944 – March 1954*. 2185/JB/4/5. Surrey History Centre.

⁸⁹⁴ Laurence, *Five London Piano Makers*, 102.

⁸⁹⁵ Ibid, 104.

⁸⁹⁶ Ibid, 109.

⁸⁹⁷ “A History of the Piano, 1157-2015” UK Piano Page, accessed 20 November 2016, http://www.piano-tuners.org/history/history_1.html.

Appendix 2: Timeline of Government Restrictions on the Piano Industry

January 1939	New Zealand announces restrictions on imports to the country.
June 1939	Piano imports banned in New Zealand.
1939	Excess Profit Tax set at 60%.
September 1939	Trading with the Enemy Act enacted.
	Control of Timber (No. 1) Order goes into effect.
January 1940	Board of Trade and Ministry of Supply take control over raw materials.
April 1940	Steel and iron restricted by licensing restrictions by the Ministry of Supply.
March 1940	Excess Profit Tax set at 100%. Firms making more than £2,000 in profit had to register with the Board of Trade.
May 1940	Purchase Tax proposed by the Conservative Government – met resistance.
June 1940	Limitation of Supply Order reduced piano production by 1/3 of the amount manufactured in June to November 1939.
October 1940	Purchase Tax enacted: a flat rate of 33⅓% of the retail value was placed on less essential and luxury goods.
November 1940	Limitation of Supply Order reduced piano production to 25% of the amount produced in June-November 1939.
March 1941	Concentration of Industries Scheme enacted.
April 1941	Piano industry invited to apply for Protection Status.
July 1941	Seven protection certificates were granted. All other piano firms had to concentrate or shut down.
	The Location of Industry (Restriction) Order, 1941. Firms not engaged in war work could not carry on in a factory or warehouse having an area larger than 3,000 feet or use the facility for storage.

August 1941	No timber would be released for the manufacture of pianos for the home trade.
September 1941	Excess Profit Tax registration requirement lowered from £2,000 profit to £500 profit.
November 1941	Purchase Tax sales threshold lowered from those with chargeable goods exceeding £2,000 a year to just £500 a year.
January 1942	Export of Goods (Control) Order No. 4 (S.R. & O., 1942, No. 68). Piano manufacturers and action makers are required to obtain a licence before exporting goods abroad. Lend Lease Agreement: British makers are banned from shipping any instrument made partially or wholly of any non-ferrous metals anywhere in the western hemisphere.
April 1942	Cessation of all export licences. Purchase Tax increased to 66 $\frac{2}{3}$ % on luxury goods.
May 1942	Piano industry granted a small amount of raw materials to enable repairs of second hand instruments. Second hand instruments now price controlled.
August 1942	Control of Manufacture and Supply Order: the production of all pianos for the civilian market is now banned. Manufacturers were able to sell their stocks, when completed, to certain priority users (N.A.A.F.I. and other Government buyers) under a monthly quota system.
April 1943	Purchase Tax raised to 100%.
August 1943	Complete shutdown of piano making as of 31 August 1943. This also applied to the output allowed for the Forces and N.A.A.F.I. In regard to other instruments: a very limited amount of manufacture is permitted for official purposes, but it does not enable the makers to retain any skilled staff or machinery.
January 1944	Export of Goods (Control) (No. 10) Order 1943. (S.R.&O. 1943, No. 1717). Holders of special censor permits may export certain good to British and Allied prisoners of war and interned civilians. This has been extended to include musical instruments and accessories.

August 1944	Board of Trade Order fixing the maximum prices for second hand goods comes into effect. Since 1942 pianoforte prices have been controlled under the General Furniture Order and the amount of profit that could be made is clearly defined in this order.
February 1945	<p>Piano industry set up a research committee to help with the transition back to civilian production. Materials were released for production of half a dozen experimental models by each of the firms which applied.</p> <p>Pianos were no longer controlled under the Export of Goods (Control) Orders and no licence was required from the Export Licensing Department.</p>
June 1945	New Order for Price Control of Second Hand Pianos. Second hand goods order (S.R.&O. 1943, No. 393).
October 1945	Timber Control Orders lessened and the piano industry was given first choice of timber.
July 1946	Trading with the Enemy Act is revoked. Order (S.R. & O. 1946, No. 1041)
July 1947	Piano makers were granted a licence to sell 333 pianos to the home market which had not been able to be exported. By April 1948 only 271 of these pianos had been transferred to dealers.
September 1948	Purchase Tax lowered to $66\frac{2}{3}\%$.
July 1949	Resumption of Home Trade for the piano industry.
October 1952	Purchase Tax lowered to $33\frac{1}{3}\%$.
April 1953	Purchase Tax abolished.

Appendix 3: Members of the Pianoforte Manufacturers Association, Ltd.

Compiled from the June 1941 & June 1944 list of members found in the Board of Trade Papers, BT 64/1786. National Archives. Addresses are in London unless otherwise stated.

Company name	Address
Bamberger, Louis & Sons	27, Finsbury Square, S.C.2
Bansell & Sons, Ltd.	5, Urswick Road, Homerton, N.9
Barratt & Robinson, Ltd.	255, York Way, N.7
Berry, Nathaniel	14 City Road, E.C.1
Brasted Bros. Ltd.	155 Hermitage Road, N.4.
Broadwood, John & Sons Ltd.	9 Hanover Street, W.1
Buckland, G. A. & Co.	Paxton Road, Tottenham, N.17
Burling & Mansfield	Leads Place, Tollington Park, N.4
Carlton Pianos	121, Daubeney Road, E.5
Challen, Chas. H. & Son, Ltd.	Omega Works, Hermitage Road, N.4
Chappell Piano Co. Ltd	50 New Bond Street, W.1
Cramer, J. B. & Co.	139, New Bond Street, W.1
Cremona Ltd.	97, Carysfort Rd., Stoke Newington, N.16
Danemann, W. & Son	Northampton Works, Northampton St. N.1
Dunkley, Chas.	18 Hazelville Road, N.19
Eavestaff, W. G. & Sons, Ltd.	Ashfield Road, N.4
Fleet Piano Co.	43, Commerce Road N.22
Harper, Thomas (Pianos) Ltd.	498, Hornsey Road, N.19
Harrison, T.	Grayling Rd., Stoke Newington, N.16
Hertman Pianos	White Hart Works, Douglas Road, N.17
Hicks, N. & Son Ltd.	53-57, New Kent Road, S.E.1
Holder, P. E. & Sons	5, Woodberry Place, N.15
Hulbert & Jones	168, Stockwell Road, S.W.9
Humphrey, J. & Co. Ltd.	Leads Place, Tollington Park, N.4
Kemble & Co.	97, Carysfort Road, Stoke Newington, N.16

Knight, Alfred	Granville Park Works, Brettenham Road, N.18
King Bros. (Pianos) Ltd.	Tresham Avenue, E.9
Leswein Pianos Ltd.	54, Islington Park Street, N.1.
Marshall, Sir H. & Son, Ltd.	(1941) Reading Lane, Hackney, E.6 (1944) Bridge Road, Weybridge, Surrey
Monington & Weston, Ltd.	23, Piercefield Street, N.W.5
Montague Bros. & Co.	505, Liverpool Road, N.7
Morley, Robt. & Co. Ltd.	123, High Street, Lewisham, S.E.13
Payne, T. G. Ltd.	141-145, Kentish Town Road, N.W.1
Pyrke, C. H.	132, Sussex Way, N.19
Renn, H. J.	Standard Works, Newington Green, N.16
Skerratt Bros.	66, Brewery Road, N.1
Souhami & Co.	109a, Regents Park Road, Chalk Farm, N.W.1
Spencer, John & Co.	7, Chalcot Road, N.W.1
Steinberg Pianos Ltd.	16, Brewery Road, N.7
Stroud Piano Co. Ltd.	The Woodchester Mills, Stroud, Glos.
Supertone	Long Eaton, Nottingham
Taplin & Hoare	89a, Braemar Rd., S. Tottenham, N.15
Taylor, Alfred & Son, Ltd.	Alsen Road, Holloway, N.7
Temple Pianos Ltd.	107, Matthias Road, N.16
Vaudeville Piano Co.	Dorset Works, Dorset Road, N.15
Vincent, T. M.	7 Greenland Place, N.W.1
Vincent Manufacturing Co.	44, Fitzroy Road, N.W.1
Whelpdale, Maxwell & Codd Ltd.	17/23, Wigmore Street, W.1
Wyatt, H.A.	53a, Turnpike Lane, Hornsey, N.8
Zender, Sidney	Milborne Piano Works, Milborne St., E.9

Appendix 4: Limitation of Supplies (Miscellaneous) Order, 1940

Transcribed from the June 1940 issue of *Music Trades Review*.

Overview

Under the new Limitation of Supplies (Miscellaneous Order, 1940), supplies to the home market of a large number of articles in general use but not considered essential are to be restricted.

The articles controlled are outlined in a schedule to the Order issued by the Board of Trade and those affecting the music and radio dealers are specially outlined at the end of this article.

In the Explanatory Memorandum it is pointed out that the consumer can use fewer and make last longer a large number of articles commonly used, but not essential. Particularly, it says, the labour engaged in non-essential production can be diverted to war work elsewhere. Under the Order every person carrying on the business of supplying:

- a) any class of controlled goods in the manufacture of which he has carried out a process, or
- b) any class of controlled goods to persons who buy for the purpose of selling them again,

is required to make an application to the Board of Trade to be registered. These persons will be referred to in this article as "Controlled Suppliers."

Retailers or other dealers who sell controlled good *exclusively* to persons (e.g., members of the public, hospitals, railway companies, etc.) who do not buy for re-sale, are *not* required to apply for registration and are *not* entitled to be registered.

Controlled Home Supplies

During the period beginning June 6, 1940, and ending November 30, 1940, the aggregate of his controlled home supplies (i.e., of supplies other than those exempted for specific purposes) of each class of controlled goods is to be restricted by each registered person to a maximum of two-thirds of his aggregate controlled home supplies of that class of goods in the six months ended November 30, 1939 (referred to hereafter as the standard period). The restriction is to be calculated by *value* and not quantity.

The Order does not *necessarily* require the registered person to restrict his home supplies to any particular customer to any fixed proportion of the value of the orders placed by that customer in the standard period. Nor does it prevent him from accepting the orders of new customers or persons who did no trade with him during the standard

period, so long as his controlled home supplies of each class of goods are in the aggregate restricted as prescribed.

Every controlled supplier, as defined in paragraph 3 above, is required to apply on forms issued by the Board of Trade for registration by the Board *before* June 20, 1940. Forms are obtainable from Chambers of Commerce, Trade Associations and by personal application at the offices of H.M. Inspectors of Factories or from the Industrial Supplies (Registers) Department of the Board of Trade, Fanum House, 66, Whitcomb Street, London, W.1. Every supplier is required to specify each class of controlled goods in respect of which he is a controlled supplier.

Applicants will be informed as soon as possible whether or not their names have been entered on the Register. A copy of the Register will be published and placed on sale at the earliest possible date. When it is issued forms will be sent to all registered persons on which to make the return required under the Order. This return must be certified by auditors and the relevant trading accounts, invoices and other documents must be kept for inspection, as may be necessary, by accountants appointed by the Board of Trade.

Provision is made under which, for example, a retailer who carries on a relatively trifling wholesale business may be exempted from the requirement to register as a wholesaler, provided that he raises the question when applying for registration. The fact that he may be allowed such exemption does not relieve any person required to be registered from his obligation to apply for registration.

Unrestricted Supplies

All registered persons may supply *without restrictions*:

- (a) any class of controlled goods to any other person whose name is included on the Register for that class of controlled goods,
- (b) goods required for the execution of contracts with Government Departments,
- (c) direct to overseas markets.

It should be noted that goods supplied to local authorities are not to be regarded as supplied to Government Departments. Northern Ireland and the Isle of Man are *not*, but the Channel Islands and Eire [Ireland] are to be so regarded.

The restriction to be made must be computed in respect of *each class* of controlled goods. It may happen that suppliers registered in respect of one class are not registered in respect of another class or classes. When making his computation, therefore, the supplier will have to be careful to examine the Register to ascertain in respect of which class or classes in which he deals each of his customers is (or is not) registered.

The words “supply” and “supplied” are to be understood as referring to the physical act of supplying and not to the making of a contract under which goods will

subsequently be supplied. Articles should be regarded as “supplied” on the date on which they are despatched to the customer by the supplier.

Definition of Value

The Order defines the value at which supplies are to be taken into account. Normally, this value will represent the net sale price on which the invoices to customers are based.

Registered persons will probably find it convenient to compute the value of the permitted home supplies of controlled goods somewhat as follows.

In respect of *each* class of controlled goods:

- (e) ascertain the total value thereof as invoiced to customers in the period from June 1 to November 30, 1939;
- (f) subtract therefrom the value of those supplies which are unrestricted;
- (g) subtract the amount of any discounts (including cash discounts), commissions or allowances to buyers and of any delivery charges applicable to the remaining supplies;
- (h) from the net total subtract one-third.

The resultant figure for *each* class of controlled goods will represent the home supplies of that class permitted for the period from June 6 to November 30, 1940.

Dealers on Commission

The fact that a person receives a commission in respect of a particular transaction does not in itself mean that for the purposes of the Order the goods in question have been “supplied” to him or that he has “supplied” them. Manufacturers’ agents, shipping houses or similar firms operating solely on commission will not be registered as suppliers. Firms which deal in controlled goods on their own account in addition to acting as agents for others must apply for registration.

A manufacturer whose business in controlled goods consists solely of manufacturing on commission or performing a process on goods which do not become his property is not a controlled supplier and is not required to register. The person on whose behalf such work is done is required to register.

Imported Goods

The restriction upon the home sales of persons covered by the Order applies not only to goods of United Kingdom manufacture but also to goods imported from abroad – the latter class are also subject on importation to the restrictions imposed by Orders under the Import, Export and Customs Powers (Defence) Act, 1939. The importer who imports controlled goods and supplies them to other persons who buy for the purpose of selling again is a wholesale dealer and is required to be so registered under the Order.

The Retailer

The retailer who is not engaged in manufacturing or wholesaling is not required to register or to make returns. His supplies are liable to restriction by the registered suppliers.

Contracts

Difficulties may arise where contracts for the supply of controlled goods have been entered into before the date of the Order, and provision is made in the Order under which in certain circumstances such contracts may be determined.

Persons required to apply to register and who fail to do so before the date prescribed in the Order (namely, June 20, 1940) will be prohibited from carrying on business in respect of which they were required to make application for registration.

Contravention of, or failure to comply with, the Order is an offence against the Defence Regulations.

Trade Associations and Chambers of Commerce

Persons desiring further information with regard to the operation of the Order should in the first instance approach their trade organisations, Chambers of Commerce or Export Groups.

Steps will be taken to supply these organisations with explanations of the various questions arising from the operation of the Order.

The Small Manufacturer

Under Article 1 (3) of the Order a manufacturer who is not also a wholesaler is *neither required to apply for registration under the Order* nor required to observe any of the other provisions of the Order provided that his total sales of any class of controlled goods did not amount to more than £250 in value in any month in the year which ended on May 31, 1940, and does not amount to more than £167 in any month henceforth. The exemption applies equally whether or not the small manufacturer retails his own product himself. But any retailer and any other person who carries on or has carried on the business of manufacturing any class of controlled goods in excess of the above figures is subject to the operation of the Order. He has to apply for registration and he has to limit his total sales within the class in question, including the goods which he does not himself manufacture.

Appendix 5: Purchase Tax

Transcribed from the August 1940 issue of the *Music Trades Review*.

General Scheme

In order that this report may be fully informative we reiterate once more that liability to tax arises when the goods pass from the wholesaler to the retailer. Manufacturers and wholesale merchants dealing in chargeable goods will be registered and this will enable them (except in certain cases) to deal with one another freely in the goods, or to export them, without incurring liability to tax. Tax becomes chargeable when the goods are sold by an unregistered person, generally the retailer, or where there is no retail stage, to the public.

Sales by Registered Persons

The right of a registered firm to buy tax free is limited to cases where the goods are bought (a) as materials for making other goods, or (b) as stock for wholesale trade. If the registered firm is buying as a consumer (e.g., if the goods are required for office equipment in his office), tax is payable as if they were being purchased by an unregistered person.

Where a registered manufacturer or wholesaler maintains separate retail shops or departments, tax will be chargeable when goods are transferred to them from the factory or warehouse.

Imports and Exports

Imported goods are included in the scope of the tax in the same manner as home-produced goods. The tax will not apply while the goods remain in bonded warehouses, or to goods in transit or transshipment.

Goods exported by a registered person will be free of tax, whether he is exporting on his own account or on behalf of a retailer. Where the retailer exports from his own stock, on which tax has been paid, the Treasury is empowered to approve schemes for refunding the tax.

Date of Operation

The date from which the tax becomes operative will be fixed by Treasury Order. It will apply to all taxable transactions as described above if the goods are delivered on or after the operative date of the tax, irrespective of the date when the contract of sale was made. In general, therefore, existing stocks in the hands of retailers will not be chargeable with tax; but there is special provision whereby firms who since July 2, 1940, have delivered goods to retailers or to separate retail branches of their own business “on a scale or in a manner not in accordance with the ordinary practice of the

business” may be charged with tax in respect thereof, notwithstanding that the goods were delivered prior to the date of operation of the tax.

Collection of Tax

The person accountable for the tax in the ordinary case is the manufacturer or wholesaler selling the goods, but he will not be required to pay it to the Crown until the end of the period (normally three months) in which the goods are delivered. Registered persons will be required to keep such accounts as will enable them to render periodical returns of their deliveries of goods and to compute and pay the tax accordingly. Provision will be made enabling the tax on goods which are not paid for during the period in which they were delivered to be carried forward to the next period, and due adjustment will be allowed in respect of bad debts.

Provision is also made to enable the seller, in the absence of agreement to the contrary, to increase the price at which he may have contracted to supply the goods before the operation of the tax, by the amount of tax chargeable. Any consequential increase in retail prices will be subject to the provisions of the Prices of Goods Act, 1939.

Registration

Firms required to register include every manufacturer who makes and sells chargeable goods and every wholesale merchant dealing in chargeable goods. Such firms must register with the Customs and Excise unless the gross takings from sales of chargeable goods do not on the average exceed £2,000 a year. The limit of £2,000 is subject to alteration by Treasury Order at any time. In the case of a manufacturing retailer, any retail sales of goods not made by him must be disregarded in determining whether the limit is exceeded.

Definitions

The term “manufacturer” means any person carrying on in the United Kingdom a business of making and selling goods, or applying any process in the making of goods which are his property (including the assembly of parts).

Firms engaged in processing or repairing goods, the property of another firm, and not themselves selling chargeable goods, are not required to register.

Retailers engaged in making chargeable goods for sale are manufacturers, and, subject to the provisions set out above, are required to register. This does not, however, apply to retailers who merely alter ready-made goods or make up carpet or curtains to prior order.

The term “wholesale merchant” means any person carrying on in the United Kingdom a business of selling goods not of his own manufacture (a) to persons buying such goods for the purpose of resale, or (b) to persons using such goods as materials in the manufacture of other goods.

Wholesale merchants engaged in import or export trade should apply for registration if they deal in chargeable goods.

Firms engaged only in making goods which are not chargeable are not required to register, but provision exists for registering such firms where they use chargeable goods in substantial quantities as materials in manufacture. This will enable them to obtain their materials free of tax from other registered firms.

The Commissioners are also empowered to register businesses such as multiple shops which for their retail trade make purchases of chargeable goods which in value and character are such as in the ordinary course of trade are made by wholesale merchants. The Commissioners propose to register such businesses, and tax will become chargeable as the goods are transferred to the firms' retail ranches.

Repairs and Second Hand

Firms engaged in repair work as distinct from manufacture are not required to register. Second hand goods as such are not exempt from tax, though in many cases no tax may be chargeable owing to the nature of the transaction, e.g., sales by retailers of second hand goods bought or taken back from members of the public. Firms who make a business of buying chargeable goods second hand and repairing or reconditioning them for sale to retailers are carrying on wholesale trade and must apply for registration.

Application for Registration

All persons required to be registered must apply for registration. Registration will not be compulsory until the Finance (No. 2) Bill, 1940, has become law, but the Commissioners are prepared to receive applications forthwith from all persons who will be registrable. Application should be made on Form PTI, which may be obtained from the local Officer of Customs and Excise, or from the Secretaries' Office, Custom House, Lower Thames Street, London, E.C.3. The form, after being completed, should be sent to the local officer, whose address is usually obtainable from the telephone directory or from the Post Office. Firms in doubt as to whether they are required to register should also consult the local officer.

On being registered, firms will be given an official certificate of registration, which will enable them to obtain tax-free from other registered firms any chargeable goods required as materials for use in manufacture or as stock for wholesale trading. A registered firm selling chargeable goods to an unregistered firm will be accountable for the tax, the amount of which must be shown separately on any invoice for the goods.

Hire Purchase

Hire and hire-purchase transactions will be treated as purchases for tax purposes. In the ordinary case where the transaction is between the retailer and the public, the tax will have been charged when the retailer bought the goods. Where the goods are let out on hire by a manufacturer or wholesale merchant to an unregistered person, tax will be due on their full wholesale value when the goods are delivered. Houses financing hire-purchase transactions will not be registerable as wholesalers merely because from time to time they resell goods on which the purchaser has defaulted.

The Commissioners strongly recommend all firms required to be registered to make application as early as possible: it is understood that the prescribed date will be fixed shortly. Arrangements have been made for copies of the official notice, and of the form of application, to be posted to a number of manufacturers and wholesale merchants who may be concerned, but any trader required to register who has not received a form should apply to his local officer of Customs and Excise.

Appendix 6: Brief on Post-War Reconstruction in the Piano Trade

Transcribed from documents in Board of Trade Papers, BT 64/1786. National Archives.

Organisation

The original Piano Trade Export Group held discussions with the Department of Overseas Trade at the Board of Trade Offices in 1942 and submitted very valuable data particularly with regard to export prospects. This Committee was enlarged on February 3rd 1943 to include manufacturers of parts and supplies as well as the original members who were piano manufacturers, and thereafter appears to have become thoroughly representative of the whole trade. At the request of the Board of Trade it enlarged and brought up to date information given by the original group.

The Trade Unions concerned with the Piano Industry have met together and have appointed a Piano Workers' Joint Committee which held its first sitting on November 11th 1942. Both the above bodies are to be invited to the proposed meetings.

There have been no relations between the two sides of the Industry since 1927 when there was a dispute and a strike. We have reason to believe that more peaceful relations may be hoped for in the future and it is anticipated by the Union side that this meeting may mark the commencement of a better state of affairs.

Concentration

Originally the Piano Trade was subjected to a process of concentration similar to that of many other industries, but after this had been completed under the direction of Lord Forres it was decided (owing apparently to reasons connected with lease-lend and similar international complexes) to close down the Piano Trade altogether and the present position is that no new production is taking place except a small number of pianos which are being made for N.A.A.F.I. and E.N.S.A. Small allocations of raw materials are made to the industry for repairs, including the re-conditioning of secondhand pianos for re-sale largely to N.A.A.F.I. This work is permitted to be carried out only by non-transferable labour.

The transferable labour still remaining in the industry is engaged on war work such as making ammunition boxes, and certain aeroplane parts.

Requisitioned firms will need to inform Regional Factory Controllers what parts of their premises are most urgently needed for a start in a small way, should it not be possible to clear all the premises.

Disposals

During the period of great shortage which may be experienced immediately after the armistice some relief may be anticipated from release of pianos from N.A.A.F.I. and E.N.S.A., or from the Admiralty. This relief cannot be very great in quantity. Some of the instruments will undoubtedly be in poor condition; all will need some reconditioning, and there will be very few fine concert pianos included. The Board is anxious to secure that this reconditioning should take place under proper supervision and that these machines should be put on the market at controlled prices and in a

regulated manner. Approaches have already been made to N.A.A.F.I. to secure that they co-operate in this. It is also clear that the allocation of contracts for reconditioning may ease some of the difficulties caused by a sudden withdrawal of contracts to the piano firms who are at present engaged in munitions.

The piano manufacturers appear to be interested in these proposals so far as they concern the London area (all manufacturers save two are in London) provided the reconditioning is to be of a good standard. They would not be interested in "odd jobs". It is understood that (except for big jobs such as split sound boards) most reconditioning work could be done satisfactorily by local retailers. As regards London the manufacturers may desire to share this work with the retail firms. It is desirable that only pianos released for purchase by the public be properly reconditioned. We cannot say at the present time whether or not sales will be entrusted to manufacturers. Profit margins certainly will be subjected to control. The manufacturers are recommended to discuss further with Mr. Abrahamson and representatives of other Departments concerned.

Time Required for Changeover

This is estimated by the employers as between 6 and 12 months according to the stocks held by individual firms now.

Export

In the original interview in 1942 it was alleged that exports were made "at a loss", being regarded as a contribution to the overheads during the slack season of 5 months. Preferential tariffs were endorsed and a hope of their extension expressed.

The annual value of exports of pianos and parts was only about £115,000 (out of a total production of £1.3/4 million) of which about 80% was to Empire countries. The makers of parts claim to be as large exporters as those of the complete instruments though statistics do not support this view. The industry expects an increased export trade after the War especially to S. America. The prospects from an accumulated demand are said to be good. The trade say they have no fear of U.S. competition even in S. America, but before the War Germany was a serious competitor. Some firms have already large export orders.

The Export Group includes both sections of the industry, i.e. piano manufacturers and the manufacturers of parts. These are complementary in as much as if a country is making pianos, e.g. Australia, parts may be imported though in addition some purchasers will demand complete U.K. instruments. At the same time the two sections of the trade are, obviously, to some degree competitors.

Comparatively few firms had direct representatives abroad. Sales were through merchants. Such methods cannot be very effective in securing new markets or extending existing markets at the expense of, say, Germany. Could the trade combine with similar industries, i.e. other musical industries, to make an export drive through their own representatives?

Was the British Industries Fair considered useful for attracting overseas business?

“The Break” in Government Contracts

The Directorate of Woodworking has asked to be represented at these meetings. Such presentation is desirable because after the Armistice Government contracts would disappear progressively. Re-allocation of those remaining would probably be necessary and this would be a responsibility of the Directorate in consultation with the Board.

Future Production

The employers have estimated for a production of 50,000 pianos plus 10,000 for export. Pre-war export was about 3,000. They ask for the following raw materials:

3154 Petersburg standards of softwoods

137500 ft. cu. of hardwoods

10000000 ft. super veneers

6500 tons of various metals, mostly iron; and more modest amounts of textiles and general merchandise.

It will be necessary to point out that these materials will only gradually become available and in any case properly seasoned wood will be found to be short for some long time. This is an important point. It would be desirable to consider and perhaps discuss with the Trade and Timber Control the possibility of releasing at intervals to firms timber for seasoning (under seasoning licences), as such timber becomes available.

Labour

It is not likely, at any rate before the Japanese armistice that anything like the suggested amount of labour (5,000 skilled, 1,000 unskilled) will be available. The skilled workers are all craftsmen but are not all equally important. The trade should be asked to classify further into groups indicating order of priority of desired release. We should need to know from the Industry in particular whether there are any key workers for whose early release a strong case can be made and if so, how many; whether they have any proposals for the allocation of this labour between the various firms as it is demobilised, and a similar question arises in the matter of raw materials.

Purchase Tax

The employers strongly urge the abolition of the present 100% purchase tax. This is a matter for the Treasury and the Board can only note with interest their view.

Machinery

The observations made by the industry to date on this are indefinite. But they appear to indicate that replacement needs should not be heavy, and machinery may not present a serious problem. New electric motors should not present much difficulty but we should like to know what machines would need replacement, their number and their value, and whether there will be a heavy demand for spare parts. The Machine Tools Control has been consulted but cannot be very helpful until specific requirements of

the industry are stated, but warns us that it expects a heavy demand for replacement of woodworking machinery after the war.

Training of Labour

As has been stated there are no organised relations between the employers and employed nor any Joint Industrial Council. We are given to understand that there is some hope of a better state of affairs; and we should like to know for our information whether there is a prospect of a national agreement on wages and hours, and particularly upon the training of apprentices on which the future of the industry must largely depend. At present there are two training institutions. 1. The Music Trades School at the Northern Polytechnic, Holloway, consists of a junior and senior school. The former takes juvenile students at 14 for a three years' course, the better students then pass to the senior school for a further two years' course. The skilled junior labour in the musical instruments trade is largely drawn from these lads and the courses are largely substitutes for the old apprentice system. Not all the students however enter the music trade. 2. The Institute of Musical Instrument Technology founded in 1938 provides some instruction for craftsmen. We should like to know the extent of support which the Industry is prepared to grant to these two bodies. They are limited in their sphere and are in no sense research organisations. The school will certainly need re-equipping to a considerable degree at the end of the war.

Research

Scientific research may be expected to assist in bringing the British product up to a level sufficiently high to compete with others outside these Islands. Before the war the trade was suffering very seriously from American and German competition. German competition declined in the years preceding 1939, but solely because the Germans were deliberately turning their piano factories to war production. At the present moment the trade employs directly few or no professional scientists on research. But scientists are obviously needed for such problems as the seasoning of special timbers, the response of special timbers and other materials to various climatic conditions (most important for the export trade), the problems of sound productions and quality, the properties and use of substitute materials, electric amplification and the further development of electronic instruments, design in general, and many other problem. It is improbable that any such useful research could be done on such questions for a less sum than £5,000 per annum; and even if the whole piano trade were to co-operate to set up a co-operative research bureau for this purpose it is probable such expenditure would be rather heavy for it. The conference should be asked to discuss whether it would not prefer to co-operate with other musical instrument makers since there are many important problems common to all musical instrument industries. If all the musical trades, including organ building, combine to form a research association substantial funds might be made available. £10,000 a year from the combined trades would be indeed a good start. Failing this, a fund of a thousand pounds spent yearly on a special library and information bureau would be far from useless and might lead to further developments later. The Department of Scientific and Industrial Research will not be represented at the meeting but would be very glad to meet and advise any sub-committee that may be appointed and to consider the proposals in relation to the work of existing research organisations.

It seems relevant to point out that a musical instrument is a finished product made by craftsmen and has reached its present degree of “perfection” through centuries of development. Problems of cost of production and processes of manufacture play a less important part than in most industries. In so far as fundamental problems are concerned, these may be less numerous and relevant than in other industries and may be such as could be dealt with by University Departments. The real problems of immediate interest to the trade are practical problems of development. Much work of this type has already been done by the staff of the Trade School through the Institute of Musical Instrument Technology and a useful body of the experience already exists. A Research Association should be independent of the School but should keep in close touch with it and with University Departments interested in the fundamental physical problems.

On the question of design, the trade might make useful contacts with the National register of Industrial Designers.

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